

GRADUATE ISSUE

Bulletin of Memphis State University 1981-82



DEADLINE DATES			
For those who expect to receive a Master's, Specialist or Doctorate on:	December 19 1981	May 8 1982	August 15 1982
Last Day For:			
Filing "Intent to Graduate Card"	Sept. 10	Jan. 20	June 9
Final submission of theses and dis- sertations to the Graduate Office	Dec. 4	April 23	July 31
"Application to Candidacy Forms"	Sept. 10	Jan. 20	June 9

**THE ESTABLISHED DEADLINES FOR REGULAR
GRADUATE APPLICATIONS ARE:**

Fall Semester — August 1

Spring Semester — December 1

Summer Semester — May 1

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The validity date for degree requirements is summer, 1988.

The University reserves the right to cancel or alter any part of this Bulletin without notice (subject to the following):

The provisions of this bulletin constitute a contract between Memphis State University and a student who commences any program of study insofar as it relates to the degree requirements for that program during the effective period of this bulletin, and the degree requirements are subject to change during such period only to the extent required by federal or state laws or accreditation standards. The specific courses or activities constituting the degree requirements for any program are subject to substitution at any time prior to completion by the student.

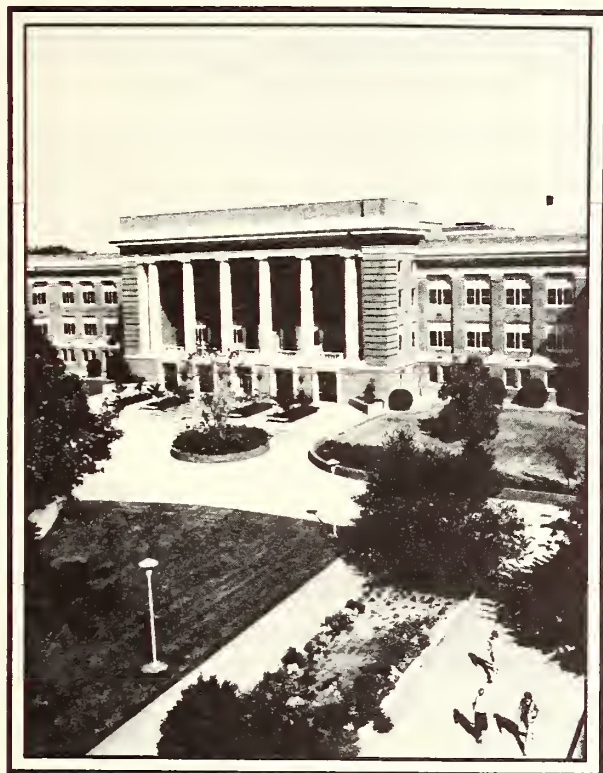
The remaining provisions of this bulletin reflect the general nature of and conditions concerning the educational services of Memphis State University at this time, but do not constitute a contract or otherwise binding commitment between Memphis State and the student. Any fees, charges or costs, and all academic regulations set forth in this bulletin are subject to change at any time, and all courses, programs and activities described in this bulletin are subject to cancellation or termination by Memphis State University or the State Board of Regents at any time.

The institution provides the opportunity for students to increase their knowledge by providing programs of instruction in the various disciplines and programs through faculty who, in the opinion of the institution, are trained and qualified for teaching at the college level. However, the acquisition of knowledge by any student is contingent upon the student's desire to learn and his application of appropriate study techniques to any course or program. As a result, the institution does not warrant or represent that any student who completes a course or program of study will necessarily acquire any specific knowledge or skills, or will be able to successfully pass or complete any specific examination for any course, degree, or license. (SBR 2:04:00:01)

SEE LAST TWO PAGES FOR ADMISSIONS APPLICATION

BULLETIN OF MEMPHIS STATE UNIVERSITY

*The Seventieth session will open
August 27, 1981*



Thomas G. Carpenter, Ph.D., *President*

Cecil C. Humphreys, Ph.D., *President Emeritus*

GRADUATE ISSUE

1981-82

MEMPHIS, TENNESSEE

MARCH, 1981

Memphis State University offers equal educational opportunity to all persons without regard to race, religion, sex, creed, color, national origin, or handicap. The University does not discriminate on these bases in the recruitment and admission of students, the recruitment and employment of faculty and staff, and the operation of any of its programs and activities, as specified by federal laws and regulations. The designated coordinator for University compliance with Section 504 of the Rehabilitation Act of 1973 is the Vice President for Student Educational Services.

Directory for Correspondence

*Inquiries will receive attention if addressed to the administrative offices below at
Memphis State University, Memphis, Tennessee 38152.*

Admission	Associate Dean, Admissions and Records (Admissions)
Assistantships and Fellowships	Chairman of appropriate department or Director of Graduate Studies of appropriate department
Degree Requirements	Dean of Graduate Studies Chairman of appropriate department
Entrance Examinations	(See testing arrangements).
Financial and Business Affairs	Director of Finance
Financial Aid	Director of Student Aid
Graduate Studies	Chairman of appropriate department or Director of Graduate Studies of appropriate college or department
Handicapped Student Services	Coordinator of Handicapped Student Services
Housing	Director of University Housing
Institutes	Chairman of appropriate department
Publications	Office of University and Community Relations
Registration	Associate Dean, Admissions and Records (Records)
Research and Grants	Associate Vice President Research
Testing Arrangements	Director of Testing
Transcripts	Associate Dean, Admissions and Records (Records)
University Press	Director of Press
Veterans' Affairs	Coordinator of Veterans' Affairs
President of the University Administration Building (901)—454-2234	Dean of Graduate Studies Administration Building (901)—454-2531
Associate Vice President for Research Administration Building (901)—454-2590	

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1981-82 UNIVERSITY CALENDAR

1981

S	M	T	W	T	F	S
AUGUST						
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AUGUST

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22	23	24	25	26	27	28
29	30	31				

The calendar is subject to change at any time prior to or during an academic term due to emergencies or causes beyond the reasonable control of the institution, including severe weather, loss of utility services, or orders by federal or state agencies. (SBR 2:04:00:01)

FALL SEMESTER 1981

AUGUST 24-27: Off-campus registrations (exact dates, times, and locations to be announced prior to registration)

AUGUST 27: Meeting of the new members of the University faculty, University Center Ballroom, 9:00 A.M.

AUGUST 28: Meeting of the entire University faculty, University Center Ballroom, 9:00 A.M., followed by meetings of colleges and departments

AUGUST 29: Registration: The Graduate School

AUGUST 31-SEPTEMBER 2: Registration Week: For detailed dates and times, see the *Schedule of Classes* for the Fall Semester 1981

SEPTEMBER 3: Classes meet as scheduled

SEPTEMBER 7: Holiday: Labor Day

SEPTEMBER 10:

Last day for adding courses

Last day for making application to the Dean of Graduate Studies for degree to be conferred in December, 1981. (File the "Intent to Graduate Card" and submit "Application for Master's Degree Candidacy" papers.)

SEPTEMBER 30: Last day for removing Summer Session "Incomplete" grades

OCTOBER 2: Class Break (Classes will not meet)

OCTOBER 23:

Last day for **undergraduate** students to withdraw from the University

Last day for **all** students to drop courses

NOVEMBER 10: Last day for **graduate** students to withdraw from the University

NOVEMBER 25: Last day for making application to the dean of the appropriate undergraduate college for degrees to be conferred in May, 1982.

NOVEMBER 26-29: Holidays: Thanksgiving

DECEMBER 4: Final submission of thesis/dissertation to the Graduate Office.

DECEMBER 10: Study Day

DECEMBER 11: Final examinations begin

DECEMBER 19: Commencement

SPRING SEMESTER 1982

JANUARY 5-8: Off-campus registrations (exact dates, times, and locations to be announced prior to registration)

JANUARY 9: Registration: The Graduate School

JANUARY 11-13: Registration Week: For detailed dates and times, see the *Schedule of Classes* for the Spring Semester, 1982.

JANUARY 14: Classes meet as scheduled

JANUARY 20:

Last day for adding courses

Last day for making application to the Dean of Graduate Studies for degrees to be conferred in May, 1982. (File the "Intent to Graduate Card" and submit "Application for Master's Degree Candidacy" papers.)

FEBRUARY 2: Last day for removing Fall Semester "Incomplete" grades

MARCH 5:

Last day for **undergraduate** students to withdraw from the University

Last day for **all** students to drop courses

MARCH 14-21: Spring Holidays

MARCH 31: Last day for **graduate** students to draw from the University

APRIL 14: Last day for making application to the dean of the appropriate undergraduate college for degrees to be conferred in August, 1982

APRIL 23: Final submission of thesis/dissertation to the Graduate Office

APRIL 29: Study Day

APRIL 30: Final examinations begin

MAY 8: Commencement

PRE-SUMMER SESSION 1982

MAY 10: Registration

MAY 11:

Classes meet as scheduled

Last day for late registration

MAY 19:

Last day for **undergraduate** students to withdraw from the University

Last day for **all** students to drop courses

MAY 21: Last day for **graduate** students to withdraw from the University

MAY 28: Final examinations

FIRST SUMMER TERM 1982

JUNE 1-2: Registration — For detailed dates and times, see the *Schedule of Classes* for the Summer Session, 1982

JUNE 3: Classes meet as scheduled

JUNE 7:

Last day for adding First Term courses

Last day for making application to the Dean of Graduate Studies for degree to be conferred in August, 1982

JUNE 18:

Last day for **undergraduate** students to withdraw from the University (First Summer Term)

Last day for **all** students to drop courses (First Summer Term)

JUNE 21: Last day for removing Spring Semester "Incomplete" grades

JUNE 24: Last day for **graduate** students to withdraw from the University (First Summer Term)

JULY 2: Holiday: Independence Day

JULY 8: Final examinations

SECOND SUMMER TERM 1982

JULY 12: Course adjustment day and registration for the Second Summer Term

JULY 13: Classes meet as scheduled

JULY 15: Last day to add or to register for Second Summer Term courses

JULY 28:

Last day for making application to the dean of the appropriate undergraduate college for degrees to be conferred in December, 1982

Last day for **undergraduate** students to withdraw from the University (Second Summer Term)

Last day for **all** students to drop courses (Second Summer Term)

JULY 31: Final submission of thesis/dissertation to the Graduate Office

AUGUST 3: Last day for **graduate** students to withdraw from the University (Second Summer Term)

AUGUST 13: Final examinations

AUGUST 15: Commencement

EXTENDED SUMMER TERM 1982

JUNE 1-2: Registration: For detailed dates and times, see the *Schedule of Classes* for the Summer Session, 1982

JUNE 3: Classes meet as scheduled

JUNE 7: Last day for making application to the Dean of Graduate Studies for degrees to be conferred in August, 1982

JUNE 8: Last day for adding Extended Summer Term courses or registering for the Extended Summer Term

JUNE 21: Last day for removing Spring Semester "Incomplete" grades

JULY 2: Holiday: Independence Day

JULY 7:

Last day for **undergraduate** students to withdraw from the University (Extended Summer Term)

Last day for **all** students to drop courses (Extended Summer Term)

JULY 12-13: Mid-Term Break

JULY 21: Last day for **graduate** students to withdraw from the University (Extended Summer Term)

JULY 28: Last day for making application to the dean of the appropriate undergraduate college for degree to be conferred in December, 1982

JULY 31: Final submission of thesis/dissertation to the Graduate Office

AUGUST 12: Study Day

AUGUST 13: Final examinations

AUGUST 15: Commencement

NINE WEEK SUMMER TERM 1982

JUNE 1-4: Registration dates for Nine Week Term

JUNE 7:

Nine Week Term classes meet as scheduled.

Last day for making application to the Dean of Graduate Studies for degrees to be conferred in August, 1982

JUNE 9: Last day to add Nine Week Term courses

JUNE 21: Last day for removing Spring Semester "Incomplete" grades

JULY 2: Holiday: Independence Day

JULY 5:

Last day for **undergraduate** students to withdraw from the University (Nine Week Summer Term)

Last day for **all** students to drop courses (Nine Week Term)

JULY 12: Change of course day Second Term Registration

Nine Week courses will not meet

JULY 14: Last day for **graduate** students to withdraw from the University (Nine Week Summer Term)

JULY 28: Last day for making application to the dean of the appropriate undergraduate college for degrees to be conferred in December, 1982

JULY 31: Final submission of thesis/dissertation to the Graduate Office

AUGUST 4: Final examinations (Nine Week Term)

AUGUST 15: Commencement

Dead Week. Definition: The four day period preceding final examination, beginning on the Monday before examinations and including Study Day (Thursday). No student social or athletic functions shall be scheduled during Dead Week.

Study Day. Definition: The day prior to final examinations during regular semesters. No academic activities shall be scheduled on Study Day. No study or review sessions which the student may feel obligated to attend may be scheduled.

Final Examination Period. No examination shall be given at a time other than the scheduled time except with written permission from the department chairman and the college dean. No social or athletic functions shall be scheduled during the Final Examination Period.

Intercollegiate athletics are excepted from the above policies.



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Description of the University



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GENERAL DESCRIPTION

Goals of the University

The primary purpose of Memphis State University is to advance learning. The University is dedicated first to the traditional ideals of learning by focusing its attention and efforts upon the creation, transmission, and application of knowledge. Secondly, it is committed to goals that are uti-

litarian in (1) preparing students to serve in a variety of professions and occupations, and in (2) providing services to society for improving the quality of life and environment. Through instruction, research, and public service, the University proffers a diversity of learning opportunities for the pursuit of knowledge and truth in an atmosphere of free inquiry and open discussion. A community of learning, the University exists to nurture students in achieving intellectual competence, maturity, and self development.

Memphis State University recognizes its responsibility to meet the needs of a changing social and economic order. The University missions are primarily met through programs and activities of undergraduate education, graduate education, continuing education, and of research and public service. The undergraduate program offers a variety of experiences that are both liberal and specialized in character. Graduate education provides further opportunities in the professions, the arts, and the sciences. Continuing education serves the educational interests and needs of the community by promoting programs which complement the courses of study offered by degree-granting colleges. Research and service activities — contributing to the vitality of sound instruction and learning — not only advance knowledge but also apply knowledge to the improvement of life and the environment. These programs and activities are not mutually exclusive. Each contributes to the basic purpose of the University — to promote learning.

Memphis State University is dedicated to these purposes:

1. Providing opportunities for its students to experience an education which is both liberal and specialized in character.
2. Preparing its students to serve in a variety of professions and occupations upon which society depends.
3. Developing graduates whose accomplishments attest to their intellectual discipline, curiosity, maturity, and professional competence.
4. Encouraging scholarly research and creative effort designed to advance the frontiers of knowledge and to enrich the cultural dimensions of society.
5. Providing services which bring knowledge to focus on societal problems, with particular emphasis on urban needs, for the purpose of improving the quality of life and environment.
6. Maintaining facilities and an atmosphere conducive to learning and the advancement of knowledge.

The *Graduate School* of Memphis State University is the center of advanced study and research within the University. The basic objectives of The Graduate School are (a) to preserve and disseminate knowl-

edge; (b) to extend knowledge through research; and (c) to prepare men and women to assume a more responsible and useful role in a changing society.

Historical Statement

In 1909, the General Assembly of Tennessee enacted a General Education Law which provided for the establishment and maintenance of three normal schools, one school to be located in each of the three grand divisions of the state. Memphis and Shelby County contributed \$350,000 for a site of approximately 80 acres near the eastern edge of the city. On September 15, 1912, West Tennessee State Normal School opened.

In 1925, the institution became a senior college, and the name was changed to West Tennessee State Teachers College. In 1941 the school's liberal arts curriculum was enlarged, and the name was changed to Memphis State College. The undergraduate program was reorganized into three schools in 1951, and a graduate school was added. On July 1, 1957, by action of the Tennessee legislature, the institution was designated Memphis State University.

Governing Body

The governance, management and control of Memphis State University is vested in the State Board of Regents. The seventeen member board includes four ex officio members: the Governor, the Commissioner of Education, the Executive Director of the Tennessee Higher Education Commission, and the Commissioner of Agriculture. Thirteen public members are appointed by the Governor: One member is selected from each congressional district, four members are selected at large from different geographical areas of the state, and there is one student member.

Memphis State University is the largest of the institutions of higher education under the direction of the Board of Regents. The other institutions with baccalaureate and graduate programs are Austin Peay State University at Clarksville; East Tennessee State University at Johnson City; Middle Tennessee State University at Murfreesboro; Tennessee State University at Nashville; and Tennessee Technological University at Cookeville.

Organization

Memphis State University is comprised of four main divisions: Academic Affairs, Business and Finance, Public Service and Continuing Education, and Student Educational Services. The schools and colleges which comprise the University are The Graduate School, The Cecil C. Humphreys School of Law, The University College (undergraduate), and five colleges offering graduate programs and undergraduate programs: Arts and Sciences, Business

Administration, Communication and Fine Arts, Education, Herff College of Engineering. In addition, there are two independent departments offering graduate programs: Audiology and Speech Pathology and Planning. The schools, colleges, and departments are described in more detail in Chapter 4 of this *Bulletin*.

FACILITIES, RESEARCH AND SERVICES

Library Facilities

The libraries of Memphis State University include the John Willard Brister Library and specialized collections in the Department of Chemistry, the Department of Mathematical Sciences, the Department of Music, the Herff College of Engineering, the Cecil C. Humphreys School of Law, the Speech and Hearing Center, and the Bureau of Business and Economic Research. The total collection numbers more than 100,000 bound volumes and some 750,000 pieces of micromaterial.

The Brister Library contains a reference and bibliography section, an inter-library loan service, a map collection, the Mississippi Valley Collection (reflecting the history and culture of that region); it is also a repository for United States government documents, and Tennessee State documents. Private study carrels are available for assignment to faculty members and graduate students engaged in research.

Memphis State University has agreements with Southwestern at Memphis, the University of Tennessee Medical Units, and with Christian Brothers College for a shared use of library collections by the students, faculty, and staff of these institutions.

Computer Facilities

Computing support for the instructional program of the University and for faculty research is provided by Computer Services. The central computing system is a PDP Sigma 9 computer which has 204K bytes of main storage and which supports both time-sharing and remote batch job entry. Remote batch job entry stations are located in the Herff College of Engineering, the College of Business Administration, the Administration Building, and the Mathematics and Foreign Language Building. The center is located in Room 112, Administration Building.

Center for Instructional Service and Research

The primary mission of the Center for Instructional Service and Research is to provide a series of instructional support, development, and evaluation services to the University community. The services are provided by four primary divisions of the Center.

Instructional Design and Development Division provides a variety of services and programs which include consultation in designing instructional material and methodologies using educational technology. Faculty efforts in instructional improvement are also supported by the Instructional Improvement Awards (Seed Grant) Program which provide grants to faculty who wish to pursue well conceived instructional development projects. In addition, this division operates the Laboratory for Individualized Learning and Instruction, which is a service facility that enables faculty to place self-instructional modules in a central location where students may engage in individualized learning and instruction.

Evaluation Services Division operates the student rating of the instructional program, offers consultation services to faculty on techniques and procedures for evaluating student achievement, and provides a professional level test-scoring and analysis service.

Learning Media Division has a full array of media services including film previewing, graphic production, and video tape duplication. The division also operates the University's film and audio-visual equipment library. Graphic design and production services are provided through the production of slides, transparencies, and other graphic material required for instructional purposes.

Instructional Television Division operates a full range of professional television production services for use in classroom instruction. This division provides a modern television studio for use in courses offered by various departments and in the production of instructional material in the video mode.

The Center is located in the John W. Brister Library Building.

Memphis State University Press

In 1968, Memphis State University Press was established as a book publishing department of Memphis State University. Its editorial policies are controlled by a committee composed of the Press's director and faculty members and administrators appointed by the President. The editorial policy of the Press is to promote the development and publication of scholarly books and works of interest to the general reader. The Press welcomes works of regional interest on Tennessee and the Mid-South. In emphasizing scholarly works, the Press gives preference to those of wide appeal to the academic community.

Public Service and Continuing Education

The Office of Public Service and Continuing Education seeks to develop a working environment wherein faculty and staff creatively originate ideas and plans, interpret community needs and demands for service, and provide the resources and tech-

niques to achieve such service. The Office is responsible for the coordination of degree-credit activities scheduled for evenings, weekends, and at residence centers in Metropolitan Memphis, Shelby County, and the West Tennessee region served by Memphis State University. The Office is also responsible for coordinating all non-credit or Continuing Education Unit (CEU) activities. These activities include workshops, conferences, institutes, and short courses. In addition, the Office coordinates applied research and provides consultation and advisory assistance to aid policy formulation by public and non-profit agencies.

Graduate courses are offered at centers where suitable arrangements are made in advance. Extensive graduate programs are available at centers in Jackson and other West Tennessee communities. Regularly employed graduate faculty members listed in this *Bulletin* teach graduate courses. The subject matter taught in these centers is the same as that offered on campus. Students should consult with the major department as to the application of these courses for a degree.

Bureau of Business and Economic Research

The Bureau of Business and Economic Research is the organized research and public service unit of the College of Business Administration. The programs of the Bureau include public service to government agencies (state and local) and the business community, continuing education, and applied general research.

Center for Manpower Studies

The Center for Manpower Studies is one of the research units of the College of Business Administration. The Center conducts research on employment and training-related topics, provides technical assistance to federal, state, and local agencies, and conducts a variety of training programs for human resource development agencies throughout the Southeast. In addition, the Center offers graduate and undergraduate instruction through the Department of Economics.

Bureau of Educational Research and Services

The purpose of the Bureau of Educational Research and Services is to serve as a catalyst for the promotion of research and development for the College of Education. As such, it is the coordinating agency of the College for several types of activities that involve faculty members: research evaluation, program development, and field services. Throughout its years of operation it has been both the initiator of programs that are now departmentalized and the site of program coordination involving two or more departments.

Institute for Engineering Research

The Institute for Engineering Research is the research organization of the Herff College of Engineering. The institute conducts research in various fields of engineering for public agencies and industry. Because Memphis State University is a major urban university, the institute is actively involved in research of interest to an emerging urban area.

Tennessee Earthquake Information Center

The Tennessee Earthquake Information Center was established in 1977 by the Tennessee State Legislature to provide the citizens of Tennessee, governmental agencies and the news media such services as the following: (1) accurate, immediate reports and background information on the occurrence of regional earthquakes; (2) scientific research related to the causes and consequences of local earthquakes and to the possibility of earthquake prediction; (3) studies related to the desirability of earthquake resistant construction; (4) advice to the populace, business, government and insurance groups on methods, means and the feasibility of reducing earthquake damage.

Institute of Governmental Studies and Research

The Institute of Governmental Studies and Research is a research and service agency operating in close coordination with the academic program of the University. It provides research, consulting and training assistance to government agencies at the local, state, national, and international levels. The focus of the Institute is upon interdisciplinary public policy and the application of academic knowledge to the practical problems confronting government decision-makers. Placed at the juncture of the academic and practitioner worlds, the Institute's purpose is to further the University mission of public service by facilitating University contributions to improved public policy.

Psychological Services Center

The Psychological Services Center is located on the first floor of the Psychology

Building. It offers both psychological evaluations and therapeutic services to children and adults. For appointments or information, contact the Center (454-2145).

Speech and Hearing Center

Located at 807 Jefferson Avenue in the Medical Center of Memphis, this facility became affiliated with the University in 1967. It serves children and adults with communication disorders. The University administers and operates the center in co-operation with the board of Memphis Speech and Hearing Center, Inc.

Regional Economic Development Center

The Center represents the University in its outreach function in the field of economic development planning. In providing technical and management assistance to the public and private sectors, the Center also serves as a laboratory for interdisciplinary research and service by faculty and graduate students in solving problems of urban and regional development. The Center's professional planning staff have academic appointments and teach courses in urban and regional planning.

Center for Electron Microscopy

The Center for Electron Microscopy provides facilities and expertise in the field of electron microscopy. Users of the center include researchers and graduate students in the biological and physical sciences.

Center for Nuclear Studies

The development of the nuclear energy industry in the United States requires manpower resources trained in the advanced technology of nuclear power. In 1974 the Southern States Energy Board designated Memphis State University as the nation's first regional center for development and implementation of nuclear energy programs to assist industry in acquiring the specialized skills necessary to quality in the national energy product and safety in nuclear plant operation. In response to this mandate, Memphis State University established the Center for Nuclear Studies to assist in the development of the nuclear industry and to serve as a

platform bringing the resources of the University to bear upon the research and development needs of the nuclear industry.

Handicapped Student Services

The Handicapped Student Services Program provides information and specialized support services that enable handicapped students to take full advantage of the educational opportunities at Memphis State. Services include pre-admission planning; preferred registration; coordination of modified housing accommodations; attendant referral; location of academic aids, i.e., notetakers, interpreters, readers; assistance with academic adaptation; consultation on special equipment and adaptive aids; wheelchair repair; special transportation and assistance with handicapped parking arrangements; liaison with state rehabilitation agencies.

The Coordinator of Handicapped Student Services also provides consultation to University faculty and staff on program accessibility, academic adaptation and architectural accessibility. A Disability Resource Room containing information on handicapped related matters is located in the Handicapped Student Services Office at 215 Scates Hall and is available to students and staff.

For more information or assistance call 454-2880.

Evening Academic Services

The Evening Academic Services office provides the full range of academic services to evening and Saturday students regularly available to regular day students. The services include career, vocational, personal, and change of major counseling; registration assistance; transcript request and evaluations; course drop and add requests; financial aid, health services, and other referrals; admissions and readmissions counseling; orientation information; traffic and parking fees, decals and tickets; Notary Public services.

GRADUATE ACADEMIC PROGRAMS

wide variety of graduate programs of study are offered in The Graduate School of Memphis State University. Candidates for a degree must design a plan which has the approval of their major adviser, the departmental chairman, and the Graduate Dean.

Memphis State University offers Master's degrees, Education Specialist degrees, and Doctoral degrees. The Master's programs are: Master of Arts (M.A.), Master of Arts in Teaching (M.A.T.), Master of Business Administration (M.B.A.), Master of City and Regional Planning (M.C.R.P.), Master of Education (M.Ed.), Master of Fine Arts (M.F.A.), Master of Music (M.M.), Master of Public Administration (M.P.A.), Master of Science (M.S.). In the area of Education, the degrees of Education Specialist (Ed.S.) and Doctor of Education (Ed.D.) are offered. The Doctor of Musical Arts (D.M.A.) is offered. The Doctor of Philosophy (Ph.D.) is awarded in Audiology and Speech Pathology, Biology, Chemistry, History, Mathematics, and Psychology. The Doctor of Business Administration is offered.

Every graduate student is expected to comply with the general requirements for the degree he is pursuing as outlined elsewhere in the *Graduate School Bulletin*. In addition to the general requirements, the student will be expected to conform to the requirements of one of the departments of the University. The choice of the department in which the student is to major may, in large part, determine the degree

he will seek, since the graduate degree should reflect the type of program the student has followed.

Following is an outline of the academic programs offered in The Graduate School.

Individual Studies Major

The program for a **MASTER OF ARTS** or a **MASTER OF SCIENCE** degree with a major in Individual Studies is designed to serve those students who have a specific educational goal and who wish to organize a program of existing courses with a concentration area, theme or special emphasis which is not found among current majors. The student will be required to pass a comprehensive examination if a thesis is not written.

Admission Procedure

1. The student must be fully admitted to the Graduate School. Admission to degree candidacy is contingent upon approval of the student's program committee.

2. Graduate Provisional Students or students admitted on a probational basis are not eligible for this program.

3. Students who desire to participate in the program may not apply more than nine (9) hours of graduate work undertaken before admission to the program.

Any exceptions must be made by the Graduate Review Committee.

Degree Plan

1. The student must formalize a statement of personal and/or professional goals which will serve as the basis for the design of his program. This statement and a formal degree plan must be placed on file in the office of the Graduate School.

2. In order for the degree plan to qualify as an Individual Studies major, it must differ significantly from the requirements for an existing major. (If the plan does not differ by at least nine hours, the student will be advised to enter the program for the existing major.)

3. The degree plan will include an outline of the previously mentioned goals, a statement of the degree sought, the designation of the major concentration, and a list of the courses leading to the degree.

4. The degree plan must contain a minimum total of 33 semester hours, of which at least 18 must be at the 7000 level or above. A thesis, performance project, or independent project may be included, but this is to be decided by the student and his program committee.

5. The degree plan must be approved by the Individual Studies Committee.

6. The student will be required to pass a comprehensive examination if a thesis is not written.

Program Committee

The student's program committee will be composed of a major graduate faculty advisor and at least one other faculty member, both to be appointed by the College Director of Graduate Studies in consultation with the student. The student may have additional program committee members who are members of the graduate faculty. If nine or more hours of the program are in a single department, a faculty member from that department must be included on the program committee. The committee will assist the student in developing the degree plan and will serve in an advising capacity for the student.

GRADUATE ACADEMIC PROGRAMS

Department	Major	Concentrations	Degree Offered
Accountancy	Accounting		Master of Science (M.S.)
	Business Administration	Accountancy	Master of Business Administration (M.B.A.) Doctor of Business Administration (D.B.A.)
Anthropology	Anthropology	(1) Urban Anthropology (2) Medical Anthropology (3) Archaeology	Master of Arts (M.A.)
Art	Studio Art	(1) Painting (2) Sculpture (3) Printmaking (4) Graphic Design (5) Interior Design (6) Ceramics	Master of Fine Arts (M.F.A.)
	Art	(1) Art History	Master of Arts (M.A.)
		(2) Art Education	Master of Arts in Teaching (M.A.T.)
Audiology and Speech Pathology	Audiology and Speech Pathology	(1) Audiology (2) Speech Pathology	Master of Arts (M.A.) Doctor of Philosophy (Ph.D.)
Biology	Biology	(1) Immunohematology	Master of Science (M.S.)
		(2) Botany (3) Cell Biology (4) Invertebrate Zoology (5) Microbiology (6) Vertebrate Zoology	Master of Science (M.S.) Doctor of Philosophy (Ph.D.)
Chemistry	Chemistry	(1) Inorganic (2) Analytical Chemistry (3) Organic (4) Physical Chemistry (5) Biochemistry	Master of Science (M.S.) Doctor of Philosophy (Ph.D.)

Graduate Academic Programs			
Department	Major	Concentrations	Degree Offered
Civil Engineering	Civil Engineering	(1) Environmental Engineering (2) Foundation Engineering (3) Structural Engineering (4) Transportation Engineering	Master of Science (M.S.)
Departments of the College of Business Administration	Business Administration	(1) Accountancy (2) Finance, Insurance, Real Estate (3) Law (4) Management (5) Management Science (6) Marketing (7) Economics	Master of Business Administration (M.B.A.)
		(1) Accountancy (2) Applied Economics (3) Finance (4) Management (5) Management Science (6) Marketing	Doctor of Business Administration (D.B.A.)
Counseling and Personnel Services	Guidance and Personnel Services	(1) Elementary School Counseling and Guidance (2) Secondary School Counseling and Guidance	Master of Education (M.Ed.)
		(3) General Counseling and Guidance (4) Community Agency Counseling (5) Student Personnel Services (6) Corrections Counseling	Master of Science (M.S.)
	Personnel Services	Counseling and Guidance	Education Specialist (Ed.S.)
		(1) Counseling (2) Higher Education	Doctor of Education (Ed.D.)
Criminal Justice	Criminal Justice		Master of Arts (M.A.)
Distributive Education	Distributive Education		Master of Education (M.Ed.)
Economics	Economics		Master of Arts (M.A.)
	Business Administration	Economics	Master of Business Administration (M.B.A.)
		Applied Economics	Doctor of Business Administration (D.B.A.)
Curriculum and Instruction	Curriculum and Instruction	(1) Adult Education (2) Higher Education	Master of Science (M.S.)
		(3) Business Education	Master of Arts in Teaching (M.A.T.)
		(4) Curriculum (5) Instructional Design and Technology (6) Reading	Master of Science (M.S.) Master of Education (M.Ed.)
		(7) Elementary Education (8) English Language Arts Education (9) Foreign Language Education (10) Mathematics Education (11) Secondary Education (12) Science Education (13) Social Studies Education	Master of Education (M.Ed.) Master of Arts in Teaching (M.A.T.)
		(14) Early Childhood Education	(M.S.) (M.Ed.) (M.A.T.)
		(1) Music Education	Education Specialist (Ed.S.)
		(2) Adult Education (3) Business Education (4) Curriculum (5) Early Childhood Education (6) Elementary Education (7) English Language Arts Education (8) Foreign Language Education (9) Higher Education (10) Instructional Design and Technology (11) Mathematics Education (12) Reading (13) Science Education (14) Secondary Education (15) Social Studies Education	Education Specialist (Ed.S.) Doctor of Education (Ed.D.)
Education (Interdisciplinary)	Higher Education		Doctor of Education (Ed.D.)
Educational Administration and Supervision	Educational Administration and Supervision	(1) General (2) Elementary (3) Secondary	Master of Science (M.S.) Master of Education (M.Ed.)
		(1) Superintendency (2) Elementary (3) Secondary	Education Specialist (Ed.S.)
		(4) Higher Education	Education Specialist (Ed.S.) Doctor of Education (Ed.D.)
		(1) General (2) Adult, Continuing and Community Education	Doctor of Education (Ed.D.)

Graduate Academic Programs

Department	Major	Concentrations	Degree Offered
Electrical Engineering	Electrical Engineering	(1) Solid State Electronics (2) Automatic Control Systems (3) Engineering Computer Systems (4) Microwave and Antenna Systems	Master of Science (M.S.)
Engineering Technology	Technical Education	(1) Architectural (2) Construction (3) Electronics (4) Manufacturing (5) Industrial Arts	Master of Science (M.S.)
English	English		Master of Arts (M.A.)
Finance, Insurance, Real Estate	Finance		Master of Science (M.S.)
	Business Administration	Finance, Insurance, Real Estate	Master of Business Administration (M.B.A.)
		Finance	Doctor of Business Administration (D.B.A.)
Foreign Languages	Romance Languages	(1) French (2) Spanish	Master of Arts (M.A.)
Foundations of Education	Foundations of Education	(1) Cultural Foundations (2) Educational Psychology (3) Research Methodology and Statistics	Master of Science (M.S.)
		(1) Cultural Foundations (2) School Psychology (3) Research Methodology and Statistics	Education Specialist (Ed.S.)
		(1) Cultural Foundations (2) Educational Psychology (3) Research Methodology and Statistics (4) Higher Education	Doctor of Education (Ed.D.)
Geography	Geography		Master of Arts (M.A.) Master of Science (M.S.)
Geology	Geology		Master of Science (M.S.)
Health, Physical Education and Recreation	Health, Physical Education and Recreation	(1) School Health (2) Physical Education	Master of Education (M.Ed.)
		(3) Community Health (4) Recreation	Master of Science (M.S.)
History	History		Master of Arts (M.A.) Doctor of Philosophy (Ph.D.)
Interdepartmental Programs	Natural Science		Master of Science (M.S.)
	Mathematical Sciences		Master of Science (M.S.)
	Industrial Systems Analysis		Master of Science (M.S.)
	Individual Studies	(by contract)	Master of Arts (M.A.) Master of Science (M.S.)
Library Science	Library Service		Master of Education (M.Ed.) Master of Science (M.S.)
Management	Management		Master of Science (M.S.)
	Business Administration	(1) Management (2) Management Science	Master of Business Administration (M.B.A.) Doctor of Business Administration (D.B.A.)
Marketing	Marketing		Master of Science (M.S.)
	Business Administration	Marketing	Master of Business Administration (M.B.A.) Doctor of Business Administration (D.B.A.)
Mathematical Sciences	Mathematics	(1) General Mathematics (2) Statistics (3) Computer Sciences	Master of Science (M.S.)
		(1) College Teaching (2) Applied Statistics	Doctor of Philosophy (Ph.D.)
Mechanical Engineering	Mechanical Engineering	(1) Design and Manufacturing (2) Energy Systems (3) Fluid Power Systems (4) Mechanical Systems	Master of Science (M.S.)

Graduate Academic Programs			
Department	Major	Concentrations	Degree Offered
Music	Music	(1) Applied Music (a) Composition (b) Piano (c) Vocal Pedagogy (d) Vocal Performance (e) Organ (f) Strings Pedagogy (g) Strings Performance (h) Brasses (i) Woodwinds (j) Percussion (k) Harpsichord (l) Opera Production and Directing (2) Sacred Music (3) Music Theory (4) Music History (5) Orff-Schulwerk (6) Suzuki Pedagogy (Piano)	Master of Music (M.M.)
		(7) Musical Arts: Ethnic Music (South Central Region)	Master of Arts (M.A.)
	Music Education		Master of Education (M.Ed.)
	Musical Arts	(1) Composition (2) Musicology; Regional Studies (3) Music Education (4) Performance (5) Sacred Music	Doctor of Musical Arts (D.M.A.)
Office Administration	Business Education and Office Management	Business Education	Master of Education (M.Ed.) Master of Science (M.S.)
Philosophy	Philosophy		Master of Arts (M.A.)
Physics	Physics		Master of Science (M.S.)
Planning	City and Regional Planning	(1) Developmental Planning (2) Urban Revitalization Planning (3) Natural and Environmental Resources Planning	Master of City and Regional Planning (M.C.R.P.)
Political Science	Political Science		Master of Arts (M.A.)
	Public Administration	(1) Urban Management and Planning (2) Comparative and Development Administration (3) General (4) Health Services Administration (5) Public Policy Analysis Program Evaluation (6) Criminal Justice Administration	Master in Public Administration (M.P.A.)
Psychology	Psychology	(1) General Psychology	Master of Science (M.S.)
		(2) Psychological Services	Master of Arts (M.A.)
	School Psychology		Master of Arts (M.A.)
	Psychology	(1) Clinical Psychology (a) Neuropsychology (b) Child Clinical (2) Experimental Psychology (a) Biopsychology (b) Learning Behavior Analysis (c) Sensory Processes (d) Neuropsychology (e) Behavior Management (f) Human Developmental Retardation (g) Industrial Psychology (h) Personality Cognitive Processes (i) Social Psychology	Doctor of Philosophy (Ph.D.)
Sociology and Social Work	Sociology		Master of Arts (M.A.)
Special Education and Rehabilitation	Special Education and Rehabilitation	(1) Educationally Handicapping Conditions (2) Pre-School Education of Exceptional Children (3) Multihandicapped	Master of Education (M.Ed.)
		(4) Rehabilitation Counseling (5) General	Master of Science (M.S.) Education Specialist (Ed.S.) Doctor of Education (Ed.D.)
Theatre and Communication Arts	Communication	(1) Radio-TV-Film (2) Rhetoric and Communication Arts (3) Theatre	Master of Arts (M.A.)
	Theatre		Master of Fine Arts (M.F.A.)

2 Admissions and Regulations



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ADMISSION TO THE GRADUATE SCHOOL

The Graduate School is open to persons holding the bachelor's degree from colleges and universities recognized by standard, general or regional accrediting agencies, and whose undergraduate work has been of sufficient quality and scope to enable them to profitably pursue graduate study. Memphis State University offers equal educational opportunity to all persons without regard to race, religion, sex, age, creed, color, national origin, or handicap.

Applicants may be required to present evidence of good health, character, and intellectual capacity necessary for pursuing graduate study. An applicant who is denied admission to the Graduate School may appeal the decision to the Graduate Dean if he feels that the denial was discriminatory or without sufficient justification.

Applications for admission to the Graduate School may be secured from the Graduate Admissions Office; all inquiries should be addressed to that office. An application form is included at the back of this *Bulletin*.

The established deadlines for submitting applications for admission are: August 1 for the fall semester, December 1 for the spring semester, and May 1 for the summer session. Applications received after these deadlines will be considered only for one of the special categories. All applications must be accompanied by a five-dollar (\$5.00) non-refundable application fee. This fee is payable one time only regardless of the level for which the student is applying.

All credentials become the property of the University and cannot be forwarded or returned. Credentials will be maintained in active files for a 12 month period. After this period, credentials will be relegated to inactive status and must be submitted again before an admission decision can be made. The applicant is advised to have all credentials on file well in advance (preferably thirty days) of the registration period for the term for which application is made.

Certain instructional programs of the Graduate School are subject to special admissions requirements which are in addition to the general admission requirements. These programs are subject to change due to the availability of institutional resources. Students wishing to enter any graduate program of study should check with the appropriate department offering the program in order to become familiar with these special requirements.

Admission to The Graduate School merely gives the privilege of taking course work. It does not in any way imply that the student is admitted to candidacy for an advanced degree.

Admission to Master's Degree Programs

The established deadlines for submitting applications are: August 1 for the fall semester, December 1 for the spring semester, and May 1 for the summer session.

An applicant may be considered for admission as a graduate master's student meeting the following requirements:

1. *Baccalaureate Degree*

By requesting a transcript of credits showing a bachelor's degree from an accredited college or university. In addition, applicants must request transcripts from any other college or university which was attended. (Students who received a bachelor's degree from Memphis State may disregard this step.)

2. *Entrance Examination*

Admission to most departments requires satisfactory scores on either the Miller Analogies Test (MAT) or the aptitude phase of the Graduate Record Examination (GRE). The Psychology Department requires the aptitude phase of the GRE. The Biology Department requires both the aptitude and advanced phase of the GRE. Students planning to major in any area of Business Administration must take the Graduate Management Admissions Test (GMAT). These tests may be taken in an institution approved to administer them.

Admission of International Students to Master's Degree Programs

Memphis State University is authorized under federal law to enroll non-immigrant alien students on "F-1" student visas. Applications and all supporting documents must be received in the Admissions Office at least 120 days prior to the beginning registration for the intended term of entry. The established deadlines for submitting applications for admission are: May 1 for the fall semester, September 15 for the spring semester, and February 1 for the summer session.

Memphis State University believes that the presence of a balanced representation of international students on campus will enrich the educational environment of its students.

International applicants should write the Office of Admissions for information on application procedures, qualification and admission to the University. Since there is considerable variation among educational systems throughout the world, International applicants will be selected on a competitive basis, after meeting the minimum standards for admission using examinations scores, grade point average, relevance of academic background to intended major field of study and recommendations from the World Survey of Education. The University often receives more applications than can be accommodated; therefore, admission cannot be granted to all applicants who meet only the minimum requirements.

nce the enrollment of International students is based on a global sampling and presentation, priority will be given to applicants with exceptional credentials who will be attending a university in the United States for the first time.

transcripts, test scores, and other credentials must be accompanied by an official English translation of these documents and must be on file in the International Student Office at least four months prior to the beginning of registration for the intended term of entry.

Requirements

All applicants whose native tongue is not English are required to take the Test of English as a Foreign Language (TOEFL) equivalent as specified by The Graduate School. The student should write TOEFL, Educational Testing Service, Princeton, New Jersey 08540, U.S.A., requesting information and a registration form. In addition, it is strongly recommended that each applicant take the GRE (Graduate Record Examination) three months before the proposed date of enrollment. Satisfactory score on both the verbal and quantitative section of the GRE is required for admission to a graduate program.

Students applying for graduate study in the College of Business are required to submit satisfactory scores on the Graduate Management Admissions Test (GMAT) in addition to the TOEFL. Each applicant could write ATGSB, Educational Testing Service, Box 966, Princeton, New Jersey 08540, U.S.A., for registration material. Official test score reports must be forwarded directly from the testing agencies to the Admissions Office, Memphis State University, Memphis, Tennessee 38152.

A student on an F-1 visa should supply, on the form provided by Memphis State University, sufficient evidence of financial support for himself and for all members of his family who will accompany him to Memphis. This requires that he certify that his intent is to attend the University full-time and that no employment will be required.

An International applicant must be in good physical health as certified by a licensed physician.

All International students must purchase health insurance before they are allowed to enroll.

The International student must become familiar with the regulations of the Immigration and Naturalization Service and assume responsibility for complying with these regulations.

International students who wish to apply for readmission to the University must meet the deadlines for new admission of International students.

Special Category Students

Students who want to apply in one of the special categories listed below are encouraged to apply by the deadlines as stated for Master's degree applicants. Applica-

tions will be accepted until the first day of registration for the term for which the student is applying. Some departments do not allow or may place limitations on the enrollment of special category students in their classes.

Graduate Provisional

A student who holds a bachelor's degree from an accredited college or university or who is currently enrolled in an accredited graduate school may be admitted as a Graduate Provisional student, subject to the following:

- Have the institution send, to the Office of Admissions, an official transcript showing the bachelor's degree and date received or request an official statement of good standing from the graduate school in which currently enrolled. (Students who received a bachelor's degree from Memphis State may disregard this step.)
- The student may register for *one semester* only and may take a maximum of six hours. Exceptions may be made only by the Dean of Graduate Studies. A maximum of six semester hours of credit earned as a Graduate Provisional Student may be applied to a degree program at Memphis State, provided the student qualifies for the program and the courses are approved by his departmental advisor.
- The student will *not* be permitted to enter a degree program.
- The graduate provisional student may, at any time within the stated deadlines, apply to the Graduate Admissions Office for reclassification as a graduate master's student, effective at the beginning of the next regular semester.

Graduate Special

A student who has earned a Master's degree from an accredited college or university may be admitted as a Graduate Special Student, subject to the following:

- Have the institution which awarded the degree send an official transcript showing the master's degree and date received or submit an official statement indicating the degree earned and date awarded.

This category is for the student who wishes to pursue post-masters coursework. A student's enrollment as a graduate special does not mean acceptance for degree candidacy.

Combination Student (MSU Senior only)

An undergraduate student at Memphis State University who is enrolled for courses which complete his undergraduate degree may apply for admission to begin graduate study and, in special cases, be allowed to register for graduate courses not to exceed a total of 15 semester hours of combined course work. The student must meet all graduation requirements except for the number of hours and meet admission requirements as a graduate masters student.

Courses for Senior Citizens and Students with a Total Disability

Persons who are over age 65 or persons who suffer from a permanent disability and are domiciled in Tennessee and meet graduate admission requirements may enroll for courses for credit at a reduced cost. Inquiries concerning admission and registration procedure and requirements may be addressed to the Records Office.

Former Graduate Students (Readmission)

Students who have previously attended the Graduate School and wish to return to the University in the same category should contact the Readmissions Office concerning readmission. If the student has enrolled at another college since last attending Memphis State University he must have a transcript forwarded to the Office of the Dean of Graduate Studies. An applicant will receive favorable consideration only if he is eligible for readmission under all University regulations.

(NOTE: International students who wish to apply for readmission to the University must meet the deadlines for new admission of International Students.)

Miscellaneous Information

Air Force ROTC Two Year Program

Graduate students are eligible to earn a commission as a second lieutenant in the U.S. Air Force by completing 12 semester hours of the AFROTC advanced program in conjunction with their graduate school studies. Applications are accepted during January and February for Fall semester entries. (See the Undergraduate *Bulletin* for details.)

Health Services

Limited medical services are available in the University Health Center. If you wish to take advantage of these services, a health record is necessary.

Entrance Examination Availability

- Miller Analogies Test (MAT)* — Students who wish to arrange for the MAT should call or write the Testing Center in Scates Hall.
- Graduate Management Admissions Test (GMAT)* — Registration packets for the GMAT are available in the Graduate Studies Office of the College of Business Administration.
- Graduate Record Examination (GRE)* — Registration packets for the GRE may be obtained from the Office of the Dean of Graduate Studies or the Graduate Admissions Office.

Residency Classification

All determinations concerning the classification of students as in-state or out-of-state for fee paying and other purposes are made in the Office of Admissions. The

determinations are based on the regulations and guidelines of the State Board of Regents. A copy of the guidelines and regulations used in the classification of students for fee-paying purposes may be found on the sample application form at the back of this *Bulletin*. If, for any reason, there is a question about a student's residency classification for fee-paying purposes, it is his or her responsibility to check with the Admissions Advisor for Residency.

ACADEMIC REGULATIONS

Every graduate student and every prospective graduate student is expected to make himself thoroughly familiar with the regulations of The Graduate School and the requirements for degrees. Failure to follow the regulations and requirements usually results in complications for which The Graduate School cannot assume responsibility. The Policies and Procedures of the Graduate are listed in the Bulletin, the Graduate Student Handbook, and/or departmental publications. The following regulations and requirements are minimums and in many cases are exceeded by the individual departments.

Course Load Limitations

Fifteen semester hours shall be the maximum load for students devoting full time to graduate study.

Those who register for 9 or more hours and devote a regular five-day week to study will be considered as full-time students. Graduate assistants who are responsible for the equivalent of two classes may register for no more than 9 semester hours; exceptions may be approved by the Graduate Dean upon the recommendation of the department.

It is strongly recommended that graduate students who are employed on a full-time basis register for no more than six semester hours. Students should consult the department for minimum and maximum course load limitations within the department.

A student may register for 18 semester hours during his final academic semester for the purpose of graduating, if he has had a 3.6 average on previous graduate studies completed.

Certain residence courses, designated as "problems courses," or special individual research topics, are described in this bulletin. Seven semester hours of credit in problems or research courses may be applied to Master's degree requirements (4 to a major area or 4 to a collateral area) if the student has both a major and a collateral area. If the student does not have a collateral area, he may not apply more than 6 semester hours of special problems courses toward meeting degree requirements. Students are not allowed to register for more than one problems course in any one semester or full summer term.

Summer School Course Load Limitations

The maximum number of hours for which a graduate student may enroll during the Summer Session is 12, exclusive of the Pre-Summer Session. The maximum course load for the Pre-Summer Session will be one three- or four-hour course. Graduate assistants who hold a full-time assistantship for the summer may enroll for a maximum of six semester hours in the Summer Session, excluding Pre-Summer Session. The maximum course load for graduate assistants for the Pre-Summer Session will be one three- or four-hour course. Exceptions may be approved by the Graduate Dean upon the recommendation of the department chairman.

Term	Minimum Hours for Full-Time Load	Maximum Credit Hour Load
Pre-Summer	3	4
1st or Second Summer	3	6
9 Week Summer Only	6	9
Ext. Summer Only	9	12
9 Wk. & 1st or 2nd	6	9
Ext. & 1st or 2nd	6	9
9 Wk. & 1st & 2nd	9	12
Ext. & 1st & 2nd	9	12
Ext. & 9 Wk. & 1st & 2nd	9	12

NOTE: The maximum for the Summer Session (not including the Pre-Summer Term) is 14 semester hours for undergraduates and 12 semester hours for graduates. To be considered part-time, a student must take one semester hour less than the appropriate designated figure in the "Minimum Hours for Full-Time Load" column.

Revision of Program (Change of Major)

Students who have previously declared major and collateral areas of study but desire to make a change should apply to the Graduate Office for a change of major.

Adding, Dropping, or Changing Sections

After a graduate student has completed his registration, changes cannot be made without approval of the appropriate university officials. The adjustment will originate with the major adviser, and the change-of-course must have the approval of the student's major adviser.

Grading System

Grades

The grades which may be awarded are as follows: A-B-C (the lowest grade for which graduate credit is allowed)-D-F, I (Incomplete), IP (In progress), W (Withdrawn), and DP (Drop).

The grades for student teaching, workshops, practica, internships, theses, and dissertations (designated in the listing of courses with †) shall be "S," "U," or "IP" (in progress). The student's performance in the course should be the equivalent of

at least a "B" for the grade of "S" (Satisfactory).

Graduate students must maintain a "C" average for all graduate work. Not more than 7 semester hours of credit earned with a grade of "C" may be applied toward meeting degree requirements. No credit is allowed for course work with grades of "D" or "F," but these grades will be included in the grade point average computation even though the course may have been repeated with a higher grade earned. Grades for courses which are older than the time limitation for the degree program will be shown on the transcript but will not be included in the computation of the average required for graduation.

Grades earned at another institution may not be used to raise the cumulative grade point average at Memphis State University.

Incomplete

The grade of I (Incomplete) indicates that the student has not completed the course for some unavoidable reason that is acceptable to his instructor. Unless the student completes the requirements for removal of the "I" within 45 days from the end of the semester or summer term in which it was received, the "I" will be changed to an "F", regardless of whether or not the student is enrolled. Extension may be granted if the instructor's absence from the campus makes it impossible for the student to remove the incomplete. If a student has an incomplete grade in the semester in which he is to graduate, and has not completed all requirements by the registration date in the following semester, including the removal of the grade, his graduation will be moved to the semester in which he completes all requirements.

In Progress

Instructors of research courses shall be allowed to give a grade for "work in progress" (IP) to extend the time required for the completion of such research. In event this time extension is for longer than one calendar year, the responsible instructor shall present a written recommendation to the Office of the Dean of Missions and to the Dean of Graduate Studies for an official dropping of the course or for the assignment of a satisfactory ("S") or unsatisfactory ("U") grade.

Thesis Credit

A student who fails to complete the thesis after having registered for the maximum degree credit allowable must continue thesis status by registering for the credit. See individual departments for specific requirements. This renewal of status must be continued each academic semester until the thesis is completed. Registration in either term of summer school will fulfill the requirement for summer. Credit will be posted upon completion and acceptance of the thesis, no more than 6 hours will be allowed for Master's thesis, even though the student

may have been required to register for additional hours in order to remain in active status. The registration may be waived for any semester if the student's adviser is not available and for other reasons approved in writing by the department chairman.

Course Numbering System

Courses are numbered according to the following system:

000-6999—Course equivalents to 4000 level senior courses for which graduate credit is offered.*

000-7999—Courses open only to graduate students

000-8999—Courses open primarily to post-Master's students

A student may not receive credit for a 4000 level course if he has credit at the 5000 level. A student may not receive credit for 6000 level courses if he has not been fully admitted to The Graduate School.

Student Grade Appeal Procedure

This appeal procedure is designed to provide any graduate student at Memphis State University with a clearly defined avenue for appealing the assignment of a course grade which he or she believes was based on prejudice, discrimination, arbitrary or capricious action, or other reasons not related to academic performance. In all cases the complaining student shall have the burden of proof with respect to the allegations in his complaint and in his request for a hearing. If any party fails to pursue timely any step of the procedure, the disposition of the student's complaint made in the last previous step shall be final. The procedure will be terminated at the level at which the instructor and the student are brought into agreement on the appealed grade. Copies of all correspondence and records will be retained in the office in which the complaint is finally resolved. The original documents will be forwarded to the Graduate Office for filing.

Step 1 The student shall first consult with the instructor in an effort to provide a satisfactory resolution of his complaint.

If the student cannot schedule a meeting with the instructor, he may contact the department chairman who will schedule the meeting between the student and the instructor. The only exception to this procedure is the case where the instructor has been terminated by the University or is unavailable so that it is impossible to complete Step 1 within the allotted forty-five days. In this case the student may proceed directly to Step 2.

Step 2 If the complaint is not resolved in Step 1, the student must complete a Graduate Student Grade Appeal Form (available in the Graduate Office, Administration Building, Room 315). This form will be sent to the chairman of the department by the Graduate Office. The student may then present his complaint in writing to the chairman of the department in which the course was offered within *forty-five*

days from the end of the term during which the grade was received. The department chairman will attempt to resolve the complaint in consultation with the instructor and the student within a *fifteen-day* period dating from the formal presentation of the written complaint. The department chairman may, at his discretion, counsel with the faculty of the department.

If the department chairman was the instructor of the course involved in the complaint or if for any reason the chairman disqualified himself, the written complaint of the student shall be submitted to the dean of the college.

The student's grade may be changed in Step 2 of the appeal procedure by the written consent of the instructor and the student.

Step 3 If the complaint cannot be resolved at the level of Step 2 within the prescribed fifteen-day time period, the student, within *five days* following the end of such period, may request in writing that the chairman forward his complaint to the dean of the college. The chairman will provide the dean with a copy of all correspondence, the Graduate Student Appeal Form, and other records pertaining to the complaint.

The dean may utilize any resources available to his office to resolve the grade conflict within a *fifteen-day* period. The dean's decision in this matter will be formally announced at a meeting of the dean, the chairman, the instructor, and the student. If the dean and chairman are in agreement that the grade should be changed, either raised or lowered, the dean shall be empowered to change the grade without the instructor's consent. Otherwise the grade shall remain as recorded.

Either the student or the instructor may appeal the decision made under Step 3 within *five days* by filing with the Graduate Dean a written request for a hearing before the Graduate Grade Appeals Committee.* In the event of such an appeal the decision shall be stayed pending the completion of the procedure in Step 4. The dean of the college must be provided a copy of the hearing request.

Step 4 The written request for a hearing before the Graduate Grade Appeals Committee should state the factual basis for the appeal of the dean's decision. If the Committee finds the student's or the instructor's request merits a hearing, the Committee shall notify the student, the instructor, the chairman and the college dean of the time and the location of the hearing. If the Committee finds that the request does not merit a hearing, the student or the instructor shall be so notified.

The Graduate Grade Appeals Committee may utilize any available resources to resolve the conflict with a *fifteen-day* period. The committee's decision in this matter will be formally announced at a meeting of the chairman of the Committee, the dean, the department chairman, the instructor and the student. If the Committee is in agreement that the grade should be changed, either raised or lowered, the Committee shall be empowered to change

the grade without the consent of the instructor. Otherwise, the grade shall remain as recorded.

Either the student or the instructor may appeal the decision made under Step 4 within *five days* by filing a written request for a hearing before the Vice President for Academic Affairs. The Vice President shall make the final decision. He may utilize any resources at his disposal to assist him in deciding the appeal. He shall have the power to allow the assigned grade to stand or to raise or lower the assigned grade. His decision must be formally announced to all parties and the Committee. The time schedule allotted for completion of action by the Committee and the Vice President shall be *fifteen days*.

The appeals procedure is not complete until all appropriate records are forwarded to the Graduate Office. At this time, the Records Office will be notified of any grade change by the Graduate Dean. A copy of the Graduate Student Grade Appeals Form will become a part of the student's file.

*The Graduate Grade Appeals Committee shall be composed of seven members and seven alternates constituted as follows:

A chairman designated by the Vice President for Academic Affairs and selected from the graduate faculty, a graduate faculty member and alternate designated by the Dean of Graduate Studies, and two graduate faculty members and two alternates elected by the University Council for Graduate Studies and Research. Three students and three alternates selected through the Graduate Student Association.

The appeal procedures outlined do not apply to grades assigned by committees composed of three or more faculty members of the Graduate Faculty.

NOTE: The summer semesters are considered as one term for grade appeal purposes; i.e., the period for appealing is 45 days from the end of the *last* summer term.

Audit Courses

Students who are registered for one or more classes at Memphis State University may also register to audit one course with the approval of their adviser and the chairman of the department in which the course will be offered.

Persons who are not enrolled for credit courses may register for a maximum of three audit courses with the approval of the Dean of Admissions and Records and the department chairman.

Audit will be posted on a student's transcript only if at the time of evaluation the faculty member judges that the student has attended enough classes to earn the audit notation. The requirements for attendance should be made known to the student at the beginning of the term.

Auditors are not to prepare lessons or papers, or take examinations. They are not to take part in class discussions or laboratory or field work.

In the event that a student has audited a course and later takes the same course for credit, the student must have permission from his Faculty Advisory Committee to use the course on his degree program.

A student may not change from a grade point basis to audit or from audit to a grade point basis after the last day to add classes for that term.

Fees for audits will be assessed on the same basis as fees for credit courses.

Credit by Examination

The departments, with approval from the Dean of Graduate Studies, may offer graduate courses for credit by examination provided that total credit by examination applied to a student's degree program does not exceed six (6) semester hours.

The following regulations govern the granting of credit by examination:

1. Any enrolled student — full-time or part-time — who is in good academic standing may make application to take an examination for credit. A student who has been admitted but has not yet registered for courses at Memphis State will have the credit earned by examination posted after he has enrolled.

2. Permission to take credit by examination must be obtained from the Major Advisor, Department Chairman, and the College Director of Graduate Studies. When this permission is granted, and after payment is made for the cost of the examination, the Dean of Graduate Studies will approve the official permit for the examination. When the Department Chairman returns the completed form to the Graduate Office, the Dean will authorize the posting of the credit to the student's record.

3. The form of the examination, the method of administering it, and the time of examination are left to the discretion of colleges and departments.

4. To receive credit, the student's examination grade should be a grade equivalent of at least a "B." Credit is indicated on the student's record as "Cr."

Credit for Work Completed Elsewhere — Transfer Credit

There is no automatic transfer of credit toward a graduate degree, but, in general, residence work completed at another accredited graduate school may be accepted in a graduate degree program. Credit earned at another institution must be presented for evaluation no later than the student's application for degree candidacy. Forms are available in the Graduate Office (315 Administration Building).

Approved transfer credit may be accepted for not more than six semester hours of course credit toward a Master's or Ed.S. degree (for exceptions, see the departments of Art and Planning). Credit will be transferred to apply toward a doctoral program upon approval of the student's departmental advisory committee, however, the last thirty semester hours of credit for the doctoral degree must be earned at the main campus of Memphis State University,

unless specifically approved by the Dean of Graduate Studies (for exception, see the College of Education).

No transfer of credit will be approved if the grade is less than a "B." No credit will be transferred unless it meets with the approval of the major adviser. Graduate credit is never granted for courses taken by correspondence. No credit will be allowed toward specialist or doctoral degrees for special short courses.

Retention

A student who has a cumulative grade point average below 3.0 will be placed on probation. Continuation in graduate school must be approved by the department chairman and the Dean of Graduate Studies. Any person whose continuation is denied may appeal the decision in the manner described in the following procedure.

Retention Appeal Procedure

Appeals are to be presented and hearings on appeals convened only during periods in which the academic units of the University are in session. Time limitations will be extended to accommodate this requirement.

All parties concerned must receive copies of:

1. The requests for a hearing.
2. Notices of the time and location of the hearing.
3. The disposition of the hearing request in each step of the appeal procedure.

As soon as notice is received that the appeal is continuing, copies of all correspondence and other records pertaining to the complaint must be provided the individual responsible for continuing the appeal by the responsible individual in the preceding step.

Step 1

A. The student must present his appeal, in writing, to the department chairman in which the program is offered. The request should state the factual basis for the appeal.

Time Limitation: Forty-five days from the end of the term during which the termination was received.

B. The department chairman will attempt to resolve the complaint in consultation with the appropriate departmental committee and the student.

Time Limitation: Fifteen days following the receipt of the complaint.

Step 2*

A. The student, or the departmental committee may appeal the decision made in Step 1 by filing, with the college director of graduate studies, a written request for a hearing before the college council for graduate studies. The request should state the factual basis for the appeal of the chairman's decision.

Time Limitation: Five days following the announcement of the decision by the chairman.

B. If the college council finds that the request does not merit a hearing, the chairman, the departmental committee and the student shall be notified.

Time Limitation: Fifteen days following the receipt of the written request.

C. If the college council finds that the request merits a hearing, the chairman, the departmental committee and the student shall be notified. If the college council is in agreement that the student should be reinstated, the council shall be empowered to reinstate the student. The department chairman, the departmental committee, and the student will be notified of the council's decision in writing by the director of graduate studies in the college.

Time Limitation: Fifteen days following the receipt of the written request.

Step 3

A. If the complaint cannot be resolved at the level of Step 2, the student, or the departmental committee may request in writing that the college director of graduate studies forward the complaint to the dean of the college.

Time Limitation: Five days after the announcement of the decision by the college council.

B. The college dean may utilize any resources available to resolve the conflict. The chairman, college director of graduate studies, departmental committee, and student will be notified of the dean's decision in writing. If the dean, college director of graduate studies and the chairman are in agreement that the student should be reinstated, the dean shall be empowered to reinstate the student.

Time Limitation: Fifteen days following the written request for appeal.

Step 4

A. If the complaint cannot be resolved at the level of Step 3, the student or the departmental committee may appeal the decision by filing with the graduate dean request for a hearing before the university council for graduate studies and research. The written request for a hearing should state the factual basis for the appeal.

Time Limitation: Five days following the announcement of a decision by the college dean.

B. If the university council for graduate studies and research finds that the appeal does not merit a hearing, the college dean, college director of graduate studies, department chairman, departmental committee, and the student shall be notified by the graduate dean.

Time Limitation: Fifteen days following the receipt of the written appeal.

C. If the university council for graduate studies and research finds that the appeal merits a hearing, it may utilize any available resources to resolve the conflict. The college dean, college director of graduate studies, department chairman, departmental committee and the student will be notified of the university council's decision in writing by the graduate dean. If the university council is in agreement that the student should be reinstated, the council

shall be empowered to reinstate the student.

Time Limitation: Fifteen days following the receipt of the written appeal.

The decision of the university council for graduate studies and research is FINAL.

In the case of free-standing departments that are not represented on a college council, Step 1 will be omitted and the appeal will be forwarded to the individual functioning as dean of the unit involved.

Withdrawing from Graduate School

Current students who fail to give official notice of complete withdrawal from Graduate School will receive a grade of "F" in each course for which the student was registered.

The student's Memphis State University identification card must be voided at the time of withdrawal. If a student withdraws with an unsatisfactory grade-point average, he must secure approval from the Graduate Dean for readmission.

Withdrawal is permitted at any time until the "Last Day for Graduate Students to Withdraw From the University" as indicated in the Calendar and *Schedule of Classes*. Address your notice of withdrawal to:

DEAN OF GRADUATE STUDIES
Memphis State University
Memphis, Tennessee 38152

Expiration of Bulletin

The degree requirements published in the graduate catalog issue of the Memphis State University *Bulletin* are valid for seven years from the beginning of the academic year to which the catalog applies. A student may complete his degree under the provisions of any valid MSU catalog provided the effective date of that catalog is not earlier than his initial graduate admission to MSU or some other accredited institution of higher learning. (This issue of the catalog is valid until fall of 1988.)

NOTE: Although the requirements for a degree program may be effective for seven years, there are other time limitations which relate to the completion of specific degrees within specific time periods. See *Time Limitations* sections for master's and post-master's degrees in the following portions of this chapter.

MINIMUM DEGREE REQUIREMENTS

Minimum Requirements for Master's Degree

Course Requirements

The Master's degree program shall include 30-36 semester hours of course work as follows. (Additional requirements for the Master of Fine Arts in Theatre, the

Master of Fine Arts in Art, the Master of Public Administration, and the Master of City and Regional Planning can be found in the description of the programs.) The student's program must be approved by the major department. In some cases, 18-24 semester hours are required in a major area and 8-12 semester hours in a collateral area.

At least 18 semester hours of the courses in a student's program must be of the type designated as primarily for graduate students (7000 level courses). At least 12 semester hours of these must be taken in the major. The department in which the collateral area is taken will determine whether or not any 7000 level courses are required.

Thesis Requirements

A thesis of 3 to 6 semester hours may be presented as partial completion of degree requirements. (See *Thesis Credit* for registration information.) Immediately after assignment of a thesis topic the student must submit "Application to Write a Thesis" form to the Graduate Office. If a thesis or approved equivalent is presented, the student may be graduated with a total of 30 semester hours of which a minimum of 18 semester hours, exclusive of the thesis, shall be in the major field.

Students must follow the *Graduate School Policies Concerning Theses and Dissertations*, available in the University Bookstore.

Three copies of the master's thesis are required by the Graduate School, and the student should consult with the department chairman and/or thesis adviser as to the number of additional copies required. A copy for the student is not included in the three required copies.

Comprehensive Examination for the Master's Degree

Before being recommended for graduation, every candidate for the Master's degree is required to pass a final comprehensive examination in his major and in his collateral area; it may be oral or written or both, at the discretion of the departments concerned.

It is the student's responsibility to confer with his major and collateral area departments regarding the time and place of the examination. No reminders will be sent him by the Graduate Office.

A student who does not perform satisfactorily on the first comprehensive examination will be given an opportunity to retake the examination at the next regularly scheduled examination period.

If the student's performance on the second examination is unsatisfactory, the department committee will decide whether or not he should be allowed to take the examination a third time. In the event that the third examination is allowed, the student must remedy deficiencies, which usually requires taking more course work, before being permitted to take the examination for the third time. This third examination is the final attempt for the student.

If the student cannot perform satisfactorily at this time, he will be dropped from the program and the department chairman will notify the Graduate School.

Time Limitation for the Master's Degree

All requirements for the degree must be completed within six years from date of the candidate's original registration for graduate courses. That is, courses over six years old will not be allowed to count for credit toward the Master's degree. Only under unusual circumstances can this requirement be waived, and then, only by the University Council for Graduate Studies and Research at the request of the major adviser and the department chairman.

Admission to Candidacy for the Master's Degree

To become a candidate for a degree, the student must file an application on forms available in the office of the Graduate Dean. The student must indicate on the application the degree program he is choosing. The application must contain plans for a complete program of graduate study and be approved by the student's major adviser, department chairman, and Director of Graduate Studies for their respective colleges.

Before the "Application for Admission to Candidacy for the Master's Degree" can be approved and the applicant can be officially admitted to candidacy for a Master's degree, the student must have satisfied the following requirements:

1. The "Application for Admission to Candidacy for the Master's Degree" and an "Intent to Graduate Card" must be filed with the Graduate Office by the last day to add classes in the semester in which the student wishes to graduate. The summer session is considered as one semester. See *Academic Calendar for deadline dates. There will be no exceptions made if forms are not submitted by the stated deadlines.*

2. The student must have at least a "B" average on all graduate work. The program must include at least 18 hours of 7000 level courses. Grades of "D" or "F" are not accepted for any graduate degree credit. No more than seven (7) hours of "C" are allowed to be counted toward a student's degree requirements.

3. If the student's program includes a thesis, the general field of the thesis must be approved prior to admission to candidacy. Forms for thesis approval are available in the Graduate Office.

4. The student's entire program must conform to the general regulations of the Graduate School and the requirements for his particular major.

5. The student's graduate work up to this point must be acceptable in quality and quantity to his major adviser, departmental chairman and/or director of graduate studies.

Every student who files an "Application for Admission to Candidacy for the Mas-

ter's Degree" will receive from the Graduate Office an approved copy of the application or a letter explaining why approval has been withheld. It will be the responsibility of each graduate student to notify the Graduate Office of any changes in name or address. Students who are graduating will receive a letter explaining graduation ceremony requirements about one month prior to graduation.

Second Master's Degree

A student who holds a Master's degree from Memphis State University may pursue a second Master's degree if he is accepted by a department. No more than twelve (12) semester hours of the first degree may be applied toward the second degree. The department with which the student is studying will determine whether any credit from the former degree will be accepted toward the second degree. Any credit accepted toward the second degree must be within the regular time limit requirements for the Master's degree.

Minimum Requirements for Post-Master's Degrees

Admission to Doctoral Programs

A student seeking admission to a doctoral program should confer with his advisor to obtain information regarding departmental policy for the doctoral program.

A Departmental Recommendation for Admission to the Doctoral Program (Early Doctoral) form will be filed by the Department Chairman immediately after the student passes the departmental qualifying examination and is accepted into an advanced degree program.

This *early Doctoral form* must be approved by the Department Chairman, the College Director of Graduate Studies, and filed in the Office of the Dean of Graduate Studies.

Qualifying Examination

Each person applying for admission to a doctoral program will be required to take a qualifying examination administered by the department in which the student wishes to major. The examination may cover specialized knowledge and general knowledge; writing skill will also be considered. To be eligible to take this qualifying examination, the student must have on file acceptable scores on the graduate admissions test required by the department. The test scores, transcripts of coursework, and other pertinent data will be examined by a graduate departmental committee.

All students who are allowed to enroll for Post-Master's courses are not necessarily eligible to take the departmental qualifying examination.

Time Limitation

Credit earned more than ten years prior to the student's graduation cannot be ap-

plied toward meeting course requirements for the Ph.D. or Ed.D. degrees.

None of the last thirty-three semester hours of credit that is presented for fulfillment of the requirements for the Ed.S. shall have been earned more than six years prior to the student's date of graduation.

Minimum Residence Requirements

The minimum residence requirement for the Ph.D. is three full years of graduate study (72 semester hours) of which at least one academic year shall be spent at Memphis State University as a full-time student. The academic year consists of two consecutive semesters exclusive of the summer sessions. Attendance in the summer session may not be used to satisfy the residence requirements for the Ph.D. degree. The residence requirement must be completed after the student has qualified for the degree program.

Candidates for the Ed.S. degree may satisfy residence requirements for the degree by attending Memphis State University as a full-time student during one regular academic semester, or by attending as a full-time student both terms of two summer sessions. The residence requirement in the College of Education must be completed after the student has qualified for the degree program. The one-year residence requirement for the Ed.D. may be completed only by registering as a full-time student for two regular academic semesters. For exceptions, see the residence requirements in the College of Education degree section.

Late Doctoral Status

After a doctoral student has completed all coursework required for the doctoral degree, has submitted an approved Program of Studies, and is eligible to begin work on his dissertation, he may apply for Late Doctoral status. This form, Departmental Recommendation for Admission to the Doctoral Program (Late Doctoral), is submitted by the Department Chairman and must be approved by the College Director of Graduate Studies and filed in the Office of the Dean of Graduate Studies.

Research Requirements/Dissertation

An acceptable dissertation is a requirement for all doctoral degrees. The dissertation must embody the results of an extended research effort which is an original contribution. It should reflect the candidate's ability to conduct independent research and interpret in a logical manner the facts and phenomena revealed by the research. The student will be required to meet the specific regulations of the department in which he is majoring.

A student who fails to earn dissertation credit at the end of one academic semester following the registration for the total credits allowable will be required to renew his dissertation status. In order that he remain in active status, the candidate will be required to register for dissertation credit

each academic semester until the dissertation is completed. (The summer term will be considered an academic semester for this purpose.) Credit will be posted upon the completion and acceptance of the dissertation. No more than the total number of semester hours for dissertation required by the department will be posted on the transcript, even though the student may have been required to register for additional hours in order to remain in active status. This requirement may be waived for any semester the advisor is not on the campus or for other reasons approved by the department chairman.

The candidate will be required to present to the Graduate School three copies of the dissertation to be bound. The dissertation which will be microfilmed, must be accompanied by an unnumbered abstract of not more than 600 words. The abstract will be published. Fees to cover the cost of microfilming and publishing are specified elsewhere and are to be paid by the student. When preparing a dissertation, the student must follow *Graduate School Policies Concerning Theses and Dissertations*. These policies supersede any other style and format.

Comprehensive and Final Examination

A comprehensive examination may be required by a department prior to approval of a dissertation topic. After the completion of the dissertation and all the prescribed work for the degree, the doctoral candidate will be given a final defense examination by a committee composed of departmental and University representatives. If the student's performance of this examination is satisfactory, he will have completed all requirements for the degree.

Statement of Intention to Graduate For All Advanced Degrees

An "Intent to Graduate" card must be obtained from and submitted to the office of the Graduate Dean by the last day of a class in the term in which the student intends to graduate. The entire summer session is considered as one semester.

The "Intent to Graduate" card must show the degree to be earned. In the event that the candidate does not complete graduation requirements in the semester in which he has filed the "Intent to Graduate" card, he must notify the Graduate Office as soon as possible and resubmit the "Intent to Graduate" card as outlined above for graduating the semester the requirements are completed.

Grades made the final semester are not allowed to average deficiencies. He will be permitted to graduate the subsequent semester.

To facilitate communication, graduate students are expected to notify the Graduate Office of their changes of address.

3 Expenses and Aid



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EXPENSES AT UNIVERSITY

The matter of expense while attending the University is of importance to every student. It is difficult, however, to give specific information about yearly expenditures; expenses vary according to the nature of the curriculum, the place of residence (whether in Tennessee or in another state or country), and the student's own habits and needs. In any student body there are so many different tastes, as well as such a wide range of financial resources, that each student must determine his budget in keeping with his own

needs and financial condition. It is possible to live simply, and to participate moderately in the life of the student community, on a modest budget. The best help the University authorities can offer the student in planning his budget is to inform him of certain definite expense items and to acquaint him with others for which he will in all probability have to provide.

The information in this section concerning tuition, fees, deposits, financial aid, etc. is applicable only to students enrolled in The Graduate School. Similar information for students in the undergraduate colleges and The School of Law is available in the bulletins of those colleges.

The listing of any fee or incidental charge in this bulletin does not constitute a contract between the University and the student. **Because of rapidly changing conditions it may become necessary to alter a fee structure before the next edition of the Bulletin is published.** As a condition of registration each student will pay the fees in effect at the time he registers.

Application Fee

Each student submitting an application for admission to the Graduate School must pay, at the time he submits his first application, a one-time non-refundable fee of \$5.00. This fee will not be required of graduate applicants who have an undergraduate application on file at the University.

Payment of Fees and Debts

All fees are payable at the time of registration; the University has no deferred fee payment arrangements. Fees may be paid through the use of Visa or Master Charge cards, if the card is issued to the student, student's spouse, or student's parents. Former students with outstanding financial obligations to the University cannot be re-enrolled until the obligations are paid.

Maintenance Fee

All students, whether in-state or out-of-state, pay a maintenance fee. Graduate fees are \$32.00 per semester hour, not to exceed a maximum of \$323.00. Students paying the fee for six or more hours are entitled to admission to home athletic events and certain health services, concerts, plays, social and other student-sponsored activities, and a subscription to the student newspaper, *The Helmsman*.

Undergraduate fees are \$26.00 per semester hour, not to exceed a maximum of \$278.00. Fees payable are based on the course level, and the maximum fees will be the graduate maximum if a student is enrolled for any graduate hours.

Fees for audits will be assessed on the same basis as fees for credit courses. Courses offered between terms, for concentrated periods during a term, or at specific locations, may be subject to fees on a per-hour basis only.

The University will usually collect the amount of fees due based on a manual calculation at the time of registration; amounts collected are applied to total fees

due in accordance with fee rates in effect. After all enrollments are complete, a computerized calculation of fees due will be made based on actual course enrollment and residency classification. Any overcollections will be refunded and students will be billed for any under-collections.

The Summer Session

The Summer Session consists of two separate terms of approximately six weeks each, plus extended terms for specific courses. Fees for the Summer Session are determined solely on a semester hour basis. The semester hour charge is \$26.00 for undergraduate and \$32.00 for graduate courses for maintenance fees and additional \$53.00 for non-resident tuition.

Tuition

Students classified as out-of-state are charged an additional \$612.00 per semester for full-time students or \$53.00 per semester hour for part-time students. Thus an out-of-state full-time student is charged \$935.00. An out-of-state student who is enrolled part-time is charged \$85.00 per semester hour.

The Office of Admissions and Records is charged with the responsibility of signing a residency classification to each student using regulations provided by the Board of Regents. The student may appeal the decision to the Committee on Residency. Residency regulations of the Board of Regents and information on appeals procedures are available in the Office of Admissions and Records.

Courses in Applied Music

The fee for applied music shall be \$30.00 per semester for each one-half hour session.

Student Activity Fee

All students enrolled for one credit hour or more will pay a \$1.00 student activity fee. The amount is \$1.00 regardless of the total number of hours for which the student is enrolled. There is no activity fee during the summer terms.

Refund of Maintenance Fees, Out-of-State Tuition, Music Fees

The following refund percentages apply to students who withdraw from the University or who drop to an hourly load below full-time.

1. 100% Refund: A full (100%) refund of fees will be made for courses cancelled by the University.
2. 75% Refund: The University provides a 75% refund of enrollment fees beginning at the moment of registration and extending for a period of time as noted in the term calendar for the semester.
3. 25% Refund: A 25% refund of enrollment fees is provided after the expiration of the 75% refund and concludes as noted in the term calendar for each semester.
4. 100% refund in case of death.

a student withdraws during the 75% period, all of the student activity is refundable. There is no refund of the student activity fee after this period.

The University refund policy is based entirely upon the official date of the withdrawal or change of course which would result in a refund. Refunds beyond the specified date or percentage cannot be made for reasons such as employment conflicts, health or medical problems, moving out of town, or other reasons which are beyond the University's control or responsibility.

Note on the term calendar in the *Schedule of Classes* that the refund period ends earlier than the final deadline for dropping course or withdrawal.

Refunds will be processed beginning approximately two and one-half weeks after classes begin and usually should be completed five weeks after classes begin.

Residence Halls

Charges for rooms in University residence halls are indicated below. For information concerning application for rooms, contact the Office of University Housing.

The following policy covers residence hall contracts, deposits, and rental fees:

1. All residence hall contracts are for the academic year or for the entire summer session.

2. Each application for residence hall accommodations must be accompanied by a deposit of \$50.00. This deposit shall remain on file with the University throughout the occupancy of housing facilities, and is reduced by the amount of any unpaid damages or any other financial obligation due to the University at the time residence hall space is vacated.

3. An initial residence hall reservation request must be confirmed by a properly negotiated contract with deposit.

4. Students who wish to retain their room and hall priority for subsequent semesters must notify the housing office in writing by July 1 for the fall semester, by December 1 for the spring semester, and by May 1 for the summer sessions.

5. A housing contract can be cancelled and a refund of the \$50.00 deposit made only if:

(1) The institution is notified a minimum of 14 calendar days prior to the first official day of registration.

(2) The student is prevented from entering the University because of personal medical reasons confirmed in writing by a licensed physician.

(3) Residence hall space is not available or the student is denied admission or readmission to the University.

Full refund will be made in the case of death. Withdrawals for other reasons will be subject to the same 75% and 25% amounts and time periods as registration fees.

Refunds of residence hall rent after registration will be prorated on a weekly calendar basis only when the student is forced to withdraw from the residence hall

under the following conditions:

(1) Because of personal medical reasons confirmed in writing by a licensed physician.

(2) At the request of the University for other than disciplinary reasons. No refund will be made if withdrawal is required for disciplinary reasons.

Full refund will be made in the case of death.

No refund of residence hall rent will be made under any other conditions.

7. Students assigned as sole occupants of double rooms in order to satisfy their requests for a single room will be assessed the single room fee.

8. Residence hall rental fees for the second summer term that are paid at the beginning of the summer session will be refunded to students who withdraw from the University before second term classes begin.

Notice of withdrawal from residence must be made in writing to the Director of Residence Life. Refunds will be computed as of the date such notice is received in the Office of Residence Life, and withdrawal is confirmed by a staff member of the hall in which the student resided.

Married Housing

The University has 126 apartments for married students located on South Campus approximately one mile from the central part of the campus. These are 70 two-bedroom and 56 one-bedroom apartments. Some apartments are built specifically for paraplegic students. All apartments are furnished with electric stove, refrigerator, carpeting and garbage disposers.

The monthly rental rates are: one bedroom apartment — \$160.00; two bed-

room apartment — \$185.00. Electrical utilities are paid by tenant.

Application forms may be obtained from the University Housing Office in Richardson Towers. A \$5.00 application fee is required when the application is submitted. A \$50.00 deposit is required upon acceptance of assigned apartment.

Meals

The University Cafeterias, Student Center and Vending Areas, open to all students, provide wholesome food at reasonable prices. The cost of meals per student is estimated at \$5.50 to \$6.75 per day.

Air Force ROTC Deposit

A uniform deposit of \$10.00 and a \$5.00 activity fee are required of each student who enrolls in the Air Force ROTC program. The uniform deposit, less charges for uniform loss or damage, will be refunded at the end of the academic year or at the beginning of a semester in which the student is not enrolled in the ROTC program.

Laboratory Deposits

Certain courses in chemistry require breakage deposits from \$10.00 to \$20.00 per semester, depending upon the course. Any unused portion of these deposits will be refunded.

Physical Education Locker and Towel Fee

Students enrolled in physical education courses must pay a fee of \$4.00 for the locker and towel issued them. Students must provide their own lock.

Dormitory	Type Room	Semester	Pre-Summer Session	First Summer Term	Second Summer Term	Extended Summer Term	Nine Week Term
Browning	Double	290	54	109	91	200	163
	Single	400	75	150	125	275	225
Hayden	Double	330	62	124	103	227	186
	Single	430	81	161	134	296	242
McCord	Double	290	54	109	91	200	163
Mynders	Double	350	66	131	109	241	197
	Small						
	Single*	450	84	169	141	309	253
	Medium						
	Single*	475	89	178	148	327	267
	Large						
	Single*	500	94	188	156	344	281
	Large						
	Single**	530	99	199	166	364	298
*Semi-Private Bath **Private Bath							
*Newport	Double	410	77	154	128	282	231
*Rawls	Double	370	69	139	116	254	208
	Single	490	92	184	153	337	276
*Richardson Towers	Double	410	77	154	128	282	231
*Robison	Double	370	69	139	116	254	208
	Single	490	92	184	153	337	276
Smith	Double	325	61	122	102	223	183
	Single	430	81	161	134	296	242
West	Double	325	61	122	102	223	183
	Single	430	81	161	134	296	242

* Air Conditioning

Late Registration

Students who do not complete registration (including the payment of fees) during the official registration period will be charged \$10.00 for any late registration following the official registration period.

Adding and Dropping Courses

A fee of \$5.00 will be charged for each change of course *form* processed, regardless of the number of course or section changes included on the form.

Transcripts

There is no fee for transcripts. However, the student will be charged \$1.00 for each official transcript over the maximum of five (5) per request. Transcripts are issued only at the request of the student in person or by letter. No transcript will be provided for a student who has any unfulfilled obligation to the University.

Diploma Fee

Each candidate for a degree from Memphis State University pays a \$20.00 fee to cover cost of the diploma, rental of cap and gown, and incidentals connected with the commencement exercises. This fee must be paid thirty days before graduation.

Credit by Examination or Placement Examination

The fee for taking an examination for credit is \$15.00 minimum and an additional \$5.00 for each credit hour over three; this fee must be paid prior to the examination. The same fee must be paid when an application for credit is made under the Credit by Placement Examination policy.

Automobile Registration

Each person who expects to operate and park any motor vehicle on the campus must pay \$5.00 for an official permit, valid from September through August, and register the vehicle in the Security Office (Room 151, Administration Building). A reduced fee of \$4.00 is charged for vehicle registrations after January 1, and \$2.00 after May 1. Residence hall occupants should ask for a special resident decal when registering their automobiles.

Identification Cards

The University issues to each student an identification card, which bears his photograph, social security number, and certification that he is enrolled as a student in the University. The card is required for registration, the borrowing of library books, and other purposes. The card remains the property of Memphis State University and will be surrendered upon request of a University official. A student will be charged \$10.00 to replace a card that has been damaged, stolen, or lost. A student will be charged \$2.00 to make any change in data on his card.

Part-time students who are enrolled for at

least six semester hours of credit courses will be given full-time I.D. card validation.

Returned Checks

It is expected that a check given the University, for any reason, will clear the bank on which it is drawn. A \$5.00 service charge will be assessed for each returned check whether given in payment of any fee or cashed by the University for the convenience of the student. Check cashing privileges will be revoked for any student who has had checks returned by his bank more than once within a twelve-month period.

Music Locker Deposit

Music students are required to have a locker for storage of University-owned musical instruments or equipment. Personal instruments may also be stored in lockers. A deposit of \$3.00 for one semester or \$4.00 for two semesters is required on each locker issued. This deposit, less a service charge of \$1.50 per semester, will be refunded upon return of the lock. Students will be expected to pay for any damages.

Thesis

The student will be required to present a receipt from the Bursar's Office to the Graduate Office showing that he has paid a fee of \$7.50 for each copy of his thesis which is to be bound. A total of three copies are required, and the student should consult with the department chairman and/or thesis advisor as to the number of additional copies required. A copy for the student is not included in these three.

Appeal Procedures for Fees and Refunds

A student may appeal the assessment, application, calculation or interpretation of any University fee, charge, deposit, or refund, or any University action connected with fees and charges. Questions should generally be discussed with personnel in the Bursar's Office. If a student is not satisfied with the resolution made by the Bursar's Office, a written appeal, on forms available in the Bursar's Office, can be made to the Director of Finance; and his determination may be appealed to the President of the University. Traffic fines are subject to a separate appeal procedure.

Dissertation

A student completing the doctorate will be required to pay the \$7.50 fee for binding each copy of his dissertation and in addition a fee of \$40.00 to defray the cost of microfilming the dissertation and publishing the abstract. A minimum of five copies are required, and the student should consult with the department chairman and/or dissertation advisor as to the number of additional copies required.

Graduate Assistantships

MASTER'S LEVEL ASSISTANTSHIPS. Graduate assistantships for Master's degree students are available in most of the

academic areas of Memphis State University. Full-time assistants may anticipate from \$2500-\$4500 salary. Full-time graduate assistants are classified as resident students for fee paying purposes for the term of their contract.

DOCTORAL ASSISTANTSHIPS AND FELLOWSHIPS. Numerous opportunities are available for qualified students to participate in N.D.S.L., N.S.F., N.I.H., Industrial and Private Foundation Awards made to the University. Inquiries should be made to either the departmental chairman or Director of Graduate Studies of the appropriate department. Full-time assistants may anticipate from \$3500-\$5,500 salary.

RESIDENT HALL ASSISTANTS. Head residents have the responsibility for a residence hall; apartments and salaries are negotiated. Resident advisers have hall responsibilities and receive room and \$100.00 per month. Inquiries should be sent to the Director of Housing.

Additional Charges

The University reserves the right to increase the charges listed herein or to add new ones whenever such increases or additions are found to be necessary.

SUMMARY OF EXPENSES

	Per Hour (Summer and Part-Time)	Fall and Spring Semester Per Semester (Full-Time)
Undergraduate:		
In-State Maintenance	\$26.00	\$278.00
Out-Of-State Tuition	53.00	612.00
Out-Of-State Total	79.00	890.00
Graduate:		
In-State Maintenance	32.00	323.00
Out-Of-State Tuition	53.00	612.00
Out-Of-State Total	85.00	935.00
Student Housing: (See listing earlier in this section.)		
Applied Music Courses: (See information earlier in this section.)		
Incidental Charges:		
Activity Fee		\$1.00
Adding or dropping courses, per form		5.00
Application for admission, first application		5.00
Automobile Registration, per automobile		5.00
Diploma, payable once		20.00
Late registration after official registration period		10.00
Transcripts, per copy after first five copies per request		1.00
Air Force ROTC activity fee, per year		5.00
School and College Ability Test		5.00
Residual American College Test		8.00
Orientiation Services (Pre-College Counseling)		10.00
P.E. locker and towel, per semester		4.00
Deposits:		
Air Force ROTC Uniform (refundable less charges for loss or damage)		10.00
Dormitory rooms (refundable less charges, upon termination of occupancy)		50.00
Laboratory breakage (refundable less charges)		Variable
Music locker deposit, per semester per year		3.00

Degree Programs and Courses



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THE COLLEGE OF ARTS & SCIENCES

Dean,
JOHN H. WAKELEY, Ph.D.

Director of Graduate Studies,
NANCY D. SIMCO, Ph.D.

The College of Arts and Sciences consists of fourteen departments, each of which offers graduate degrees. Candidates for each of these degrees must pursue a curriculum plan which has the approval of their major advisor, the departmental chairman, and the Graduate Dean. Every graduate student is expected to comply with the general requirements of the Graduate School (see Chapter 1 of this Bulletin) and the program requirements of the degree being pursued (see departmental listings in this chapter).

MASTER'S DEGREES

The programs for the **MASTER OF ARTS** degree are generally open to those who have completed the Bachelor of Arts degree. Others may enroll in these programs if undergraduate prerequisites are met. Students majoring in the following areas may pursue in the Master of Arts degree: Anthropology, Criminal Justice, English, Geography, History, Philosophy, Political Science, Psychology, Romance Lan-

guages, and Sociology (see departmental listings).

The program for the **MASTER OF PUBLIC ADMINISTRATION** degree is generally open to students with preparation in the social sciences or in business courses. Students working toward this interdisciplinary degree complete a core curriculum in public administration courses and a concentration in one of the following areas: General Public Administration, Health Services Administration, Urban Management and Planning, Comparative and Development Administration, Public Policy Analysis/Program Evaluation, and Criminal Justice Administration (see listing for Political Science).

The programs for the **MASTER OF SCIENCE** degree are generally open to students with a science background. Students enrolled in the following areas may pursue the Master of Science degree: Biology, Chemistry, Geography, Mathematical Sciences, Physics, and Psychology (see departmental listings).

The program for the **Interdisciplinary MASTER OF SCIENCE** degree is a non-

thesis degree designed for those desiring both depth and breadth in the natural sciences and/or mathematics. It is intended to be especially applicable for science teachers and others involved in the sciences in industrial and governmental positions. Science courses included in the program are biology, chemistry, geology, mathematics, physical geography, and physics. A minimum of 33 semester hours is required, excluding research and seminar courses. Nominal majors may be either in natural sciences (Option A) or mathematics (Option B).

Under Option A, courses are to be selected with a minimum of 9 semester hours in one science, 6 semester hours in another, and 3 semester hours in a third science. If desired, a collateral area of up to 9 semester hours may be elected in business, education, engineering, government, or other areas approved by the advisor. Under Option B, students will undertake a minimum of 27 semester hours in mathematical sciences, (which includes statistics, computer sciences and pure and applied mathematics courses) and up

to 6 semester hours in additional courses to be determined by the student and his advisor.

For mathematics option see listing under Mathematical Sciences. For natural science option contact the program advisor, Robert Marshall, Department of Chemistry.

DOCTOR OF PHILOSOPHY DEGREE

The Doctor of Philosophy Degree is offered in the following departments within the College of Arts and Sciences: Biology, Chemistry, History, Mathematical Sciences, and Psychology. General requirements for the Ph.D. degree are outlined in

these departmental listings. More detailed information about prerequisites, course work, research requirements, etc., may be obtained from the chairman or Graduate Coordinator of the respective departments, or from the college level Director of Graduate Studies. Any of these departments may choose to admit a student to doctoral study without requiring the master's degree as a prerequisite.

COLLEGE OF ARTS AND SCIENCES GRADUATE ACADEMIC PROGRAMS

Department	Major	Concentrations	Degree Offered
Anthropology	Anthropology	(1) Urban Anthropology (2) Medical Anthropology (3) Archaeology	Master of Arts (M.A.)
Biology	Biology	Immunohematology	Master of Science (M.S.)
		(1) Botany (2) Cell Biology (3) Invertebrate Zoology (4) Microbiology (5) Vertebrate Zoology	Master of Science (M.S.) Doctor of Philosophy (Ph.D.)
Chemistry	Chemistry	(1) Inorganic (2) Analytical Chemistry (3) Organic (4) Physical Chemistry (5) Biochemistry	Master of Science (M.S.) Doctor of Philosophy (Ph.D.)
Criminal Justice	Criminal Justice		Master of Arts (M.A.)
English	English		Master of Arts (M.A.)
Foreign Languages	Romance Languages	(1) French (2) Spanish	Master of Arts (M.A.)
Geography	Geography		Master of Arts (M.A.) Master of Science (M.S.)
History	History		Master of Arts (M.A.) Doctor of Philosophy (Ph.D.)
Mathematical Sciences	Mathematics	(1) General Mathematics (2) Statistics (3) Computer Sciences	Master of Science (M.S.)
		(1) College Teaching of Mathematics (2) Applied Statistics	Doctor of Philosophy (Ph.D.)
Philosophy	Philosophy		Master of Arts (M.A.)
Physics	Physics		Master of Science (M.S.)
Political Science	Political Science		Master of Arts (M.A.)
	Public Administration	(1) Urban Management and Planning (2) Comparative and Development Administration (3) General Public Administration (4) Health Services Administration (5) Public Policy Analysis/Program Evaluation (6) Criminal Justice Administration	Master in Public Administration (M.P.A.)
Psychology	Psychology	General Psychology	Master of Science (M.S.)
		Psychological Services	Master of Arts (M.A.)
	School Psychology		Master of Arts (M.A.)
	Psychology	(1) Clinical Psychology (a) Neuropsychology (b) Child Clinical (2) Experimental Psychology (a) Biopsychology (b) Learning Behavior Analysis (c) Sensory Processes (d) Neuropsychology (e) Behavior Management (f) Human Developmental Retardation (g) Industrial Psychology (h) Personality-Cognitive Processes (i) Social Psychology	Doctor of Philosophy (Ph.D.)
Sociology and Social Work	Sociology		Master of Arts (M.A.)
Interdepartmental	Natural Science		Master of Science (M.S.)
	Mathematical Sciences		Master of Science (M.S.)
	Individual Studies	(by contract)	Master of Arts (M.A.) Master of Science (M.S.)

ANTHROPOLOGY

ASSOCIATE PROFESSOR
THOMAS W. COLLINS, *Chairman*
Room 124, Clement Hall

DR. DREXEL A. PETERSON, *Coordinator of Graduate Studies*

The Department of Anthropology offers a Master of Arts degree with a major in Anthropology with the purpose of training students as competent practicing anthropologists in the fields of multiethnic community organization, health care delivery systems, contract research and service in Archaeology and Museum Operation, and several aspects of educational administration.

Concentrations are available in Urban Anthropology, Medical Anthropology, and Archaeology. Each student will plan his or her program in consultation with his or her major adviser.

M.A. Degree Program**Program Admission**

In addition to the undergraduate preparation, applicants will be considered on the basis of their work experience, career plans, and overall undergraduate grade point average. Three letters of recommendation are required.

Program Requirements

A total of 30 semester hours course work plus satisfactory performance in a practicum (Anthropology 7985 — 6 hours) for a total of 36 semester hours.

Satisfactory completion of the core curriculum in one of the concentrations.

Each student will be required to gain competence in quantitative methods relevant to his or her area of specialization. Students without previous background in quantitative methods will be required to take at least 3 hours in this area, selected from a range of existing graduate-level courses to best fit individual program needs.

At least 18 semester hours of courses must be taken at the M.A. level.

Satisfactory performance on a comprehensive exam.

The Master's Degree in Anthropology is an interdisciplinary degree and students are encouraged to take up to 9 semester hours of their work outside of the Department of Anthropology, depending upon their area of interest and the nature of previous work experience.

EO10 ANTHROPOLOGY (ANTH)

1. Anthropology and Education. (3). (Same as Foundations of Education 6051) An advanced study of the cultural transmission process with emphasis on identifying differing behavioral, cognitive and learning styles of various ethnic groups within American society and selected third world countries. Encounter of U.S. subcultural groups with the public education system are examined. **PREREQUISITE:** Permission of instructor. [2202-1]

4. The Rise of Anthropological Thought. (3). The rise of anthropology as a science. Emphasis on anthropological thinking theories of the 19th and early 20th centuries. [2202-1]

5. Contemporary Anthropological Theory. (3). Contemporary growth of theories and methods in anthropology. **PREREQUISITES:** ANTH 1100 and 1200; or permission of instructor. [2202-1]

1. Human Adaptations (3). Human populations and their ability; examination of the human adaptations in locomotion, manipulation, facial structure, the brain and language, and production; comparisons to the anatomy, physiology, and behavior of other primates. [2202-1]

2. Economic Anthropology. (3). Comparative analysis of economic systems and their functional relationships to other cultural institutions; production, distribution, and consumption on-literate groups; concepts of wealth, value, property, and membership. **PREREQUISITE:** ANTH 1200 and at least one survey area course in ethnology; or permission of instructor. [2202-1]

3. Anthropology of Religion. (3). Comparative analysis of religious systems and their functional relationships to other cultural institutions; interrelations of myth, magic, and ritual; roles of religious institutions and religious practitioners. [2202-1]

4. Cultural Change. (3). Internal and external factors causing change; the role of various change agents; cultural changes associated with urbanization, industrialization and modernization; theories of cultural evolution. [2202-1]

5. Political Anthropology. (3). Comparative analysis of political systems and their functional relationships to other cultural institutions; formation and segmentation of political structures; theories of leadership and political control. [2202-1]

1. Archaeological Theory and Method. (3). History of archaeology and the development of a conceptual framework for archaeological data collection and interpretation; current theories and methods including the use of allied specialists. [2202-1]

2. Archaeological Field Control. (3). Methods of dealing with archaeological field problems; individual instruction in collection, recording, and field analysis of both historic and prehistoric archaeological data. [2203-8]

5. Archaeological Field Techniques and Restoration. (3). Individual instruction in dealing with archaeological field problems and methods of modern conservation and restoration techniques. [2203-8]

6351. Evolution of Civilization. (3). Comparative investigation of the origins of civilization in the Old and New Worlds. Development and study of models to explain the cultural, social, political, and other changes that lead to and define civilization. **PREREQUISITE:** ANTH 1200 or permission of the instructor. [2202-1]

6354. Archaeology of the Holy Land. (3). The archaeological remains in the Holy Land from the Stone Age to the early Christian Era. [2203-1]

6370. Historic Archaeology. (3). Review of the contributions of archaeologists to historical research. The methods and techniques of archaeologists as required and modified by the excavation and interpretation of historic materials. The allied specialties unique to Historic Archaeology including documentary investigations and the conservation and restoration of existing structures. [2203-1]

6380. Museology. (3). (Same as Art 6380). The history and development of museums; mandate and variety of institutions; significant research facilities; historical and contemporary collections; and the educational roles of museums in contemporary society. [1099-1]

6381. Archaeological Laboratory and Research Techniques. (3). Coverage of basic archaeological laboratory and research techniques, including processing, cataloguing, storage of specimens, and analysis of a small body of archaeological data on an individual basis. [2203-8]

6382. Museum Operation. (3). (Same as Art 6382). Basic aspects of museum organization, management, exhibit planning and execution, and maintenance of collections and records. [1099-1]

6410. Complex Societies. (3). Folk Society, peasant society, and the pre-industrial state. Community studies. Anthropological studies of social institutions and groupings in industrial settings. **PREREQUISITE:** ANTH 1200 or permission of instructor. [2202-1]

6411. Urban Anthropology. (3). Anthropological studies of pre-industrial and industrial cities. Urbanization, movements of social transformation and other processes of adjustment to an urban milieu. Urban slums, ethnic enclaves, and housing developments in cross-cultural perspective. Urban and social kinship and social organization. Urban community development. Urban research techniques. [2214-1]

6420. American Folklore. (3). Selected genres of American folklore, including folk religion and belief, folk medicine, folksong and music, narrative and humor (jokes and riddles). Comparisons to other cultures. Emphasis on role of folklore in maintenance of tradition, in social change, and in concept of culture. [2202-1]

6511. Medical Anthropology. (3). Cross-cultural analysis of bio-behavioral components of infectious, nutritional, genetic, chronic and psychiatric diseases. Individual and cultural reactions to medical care, professionals and health care delivery systems. [1299-1]

6521. Folk Medicine in the U.S. (3). Medical alternatives to the standard health care system. Concepts of illness associated with such practices as the use of medicinal plants, faith healing, chiropractic. Clinical effectiveness of folk herbal medicine and psychotherapy. The health professional's role in caring for persons with different perceptions of health and disease will be emphasized. [2202-1]

6541. Nutritional Anthropology. (3). Human nutrition in cross cultural perspective. Basic nutritional requirements. Interrelations of dietary behavior with resource availability and with cultural attitudes regarding nutritive and health values for foods. Dietary aspects of acculturation and culture change. Methodology in the assessment of nutritional status and nutritional insufficiencies. Exemplary case studies. [1299-1]

6724. Primitive Technology. (3). An anthropological survey of the development of technology. Analysis of the origins of primitive techniques, subsistence patterns, arts, crafts, machines, and tracing of their relationship to social organizations. A comparative examination of prehistoric and historic information. [2201-1]

6751. Culture and Personality. (3). Comparison of factors involved in the analysis of personality as contrasted to culture; the interaction of these factors; problems of studying personality cross-culturally. [2202-1]

6752. Applied Anthropology. (3). Applications of anthropological knowledge and techniques to contemporary problems in government, industry, public health, and colonial and native administration. Emphasis on, but not limited to, contacts between industrial and nonindustrial societies. **PREREQUISITE:** 12 semester hours of anthropology or permission of the instructor. [2202-1]

7075. Methods in Anthropology. (3). Critical examination of field methods and research designs in selected areas of anthropology. Major trends in contemporary anthropological research as a preparation for applied or thesis research. [2202-1]

7100. Seminar in Biocultural Anthropology. (3). Topics include principles of human genetics, the biological and cultural aspects of race, the hereditary and environmental factors in modern human variation, medical and nutritional anthropology. [2202-1]

7200. Seminar in Cultural Anthropology. (3). Topics include the nature of culture and its various aspects including language, social organization, economics, technology, the development of civilization, and the process of urbanization. [2202-1]

7311. Public Archaeology. (3). Roles and responsibilities of the archaeologist in contract and salvage work, in museum research and administration, and in the public dissemination of archaeological information. A review of relevant state and federal legislation. [2203-1]

7335. Seminar in Regional Archaeology. (3). Analysis of selected topics of archaeology normally with emphasis on the southeastern United States and particularly West Tennessee. May be repeated for a maximum of 6 hours. [2203-1]

7381. Seminar in Historic Preservation. (3). Studies in field excavation, basic preservation techniques, use of historical documents, and restoration methods, to gain expertise in the basic aspects of historical reconstruction. Students will have opportunity

to study problems of preservation and interpretation in Memphis and the Mid-South. [2203-1]

7395. Special Topics in Archaeology. (3). Analysis of selected topics of special interest in public works and restoration. Emphasis on either prehistoric or historic material. May be repeated for a maximum of 6 hours. [2203-1]

7411. Urban Anthropology in the Mid-South. (3). Application of anthropological theory to community change in Memphis and small cities of the Mid-South. The effects of new technology, transportation, labor organizations and government programs. [2201-1]

7495. Special Topics in Urban Anthropology. (3). Analysis of selected topics of special interest in Urban Anthropology. May be repeated for a maximum of 6 hours. [2214-1]

7511. Anthropology of Health Care Professions. (3). Roles of the various health professions in the delivery of medical care with emphasis on the perception of these roles by racial or ethnic groups in the Mid-South. Lectures by medical professionals and administrators. [2202-1]

7595. Special Topics in Medical Anthropology. (3). Analysis of selected topics of special interest to mental health, nutritional and current biomedical research. May be repeated for a maximum of 6 hours. [2202-1]

7975. Directed Individual Readings. (1-3). Intensive guided study of original data in areas selected by advanced students and accepted by the staff. **PREREQUISITE:** Permission of staff. [2202-8]

7980. Directed Individual Research. (1-3). Intensive guided study of original data in areas selected by advanced students and accepted by the staff. Preparation for publication. **PREREQUISITE:** Permission of chairman and the designated staff. [2202-8]

7985. Anthropological Applications. (6) Supervised practical experience in the application of anthropological principles in an agency or facility appropriate to urban, medical and nutritional anthropology, mental health or archaeology. [2202-5]

†Grades of S, U, or IP will be given.

BIOLOGY

PROFESSOR CARL DEE BROWN
Chairman

Room 201, Life Sciences Building

DR. C. GEORGE HOLLIS, *Coordinator of Graduate Studies*

I. The Department of Biology offers the Master of Science and Doctor of Philosophy degrees with a major in Biology and concentrations in Botany, Cell Biology, Invertebrate Zoology, Microbiology, or Vertebrate Zoology. A concentration in Immunohematology with a major in Biology for a Master of Science degree is also available.

II. M.S. Degree Program**A. Program Admission**

See section on Graduate School Admission.

B. Program Requirements (Thesis)

1. Biology 7200, 7600, and 7996. Attendance in seminar is mandatory. Credit is earned in Biology 7200 before the last semester of residence and in Biology 7600 during the last semester.

2. The maintenance of a grade point average of 3.0. Continuation of a student who makes a C or below is at the discretion of the Student's Graduate Committee.

3. A reading knowledge of one foreign language. Those languages accepted without restriction are French, Spanish, German, and Russian. Three options are available for meeting this requirement: (a) a grade of "B" or better in the fourth semester course of the language approved by the student's Advisory Committee, (b) achievement of the 35th percentile ranking on the Graduate Student Foreign Language Test, or (c) a grade of "B" or better in Languages 6702.

4. A written examination covering subject matter designated by the advisory committee will be administered once each semester and during the summer term on a date published by the department chairman.

5. Presentation of research (7600) and a thesis (7996) as approved by the student's Graduate Committee.

6. Final oral examination.

C. Program Requirements (Non-thesis)

1. A minimum of 33 semester hours of graduate courses. The total number of semester hours required for graduation will be determined by the student's Graduate Committee based on academic background. No more than 3 semester hours can be satisfied by Biology 7091, 7092, or 7093.

2. Biology 7200. Attendance in seminar is mandatory. Credit of 1 semester hour will be earned during the semester the student presents the Biology 7200 seminar.

3. The maintenance of a minimum grade point average of 3.0. Continuation of a student who makes a "C" or below is at the discretion of the student's Graduate Committee.

4. Final written and oral examinations which will be administered by the student's Graduate Committee during the final semester of residence.

Biology may be used as a collateral area provided the student has the necessary undergraduate requirements. When a student is enrolled in the INTERDISCIPLINARY MASTER OF SCIENCE program, bona fide graduate credit will be given only to those courses which are open to all graduate students.

III. Ph.D. Degree Program

A. Program Admission

The prospective doctoral student must normally hold a master's degree from a recognized institution. However, a student may petition for an optional program leading directly to the Ph.D. All students will be required to submit satisfactory scores of the Aptitude and Advanced Placement Test of the Graduate Record Examination with application to enter The Graduate School or take the tests before completion of the first semester of graduate school.

B. Program Requirements

1. *Course Requirements* — A minimum of three (3) academic years beyond the baccalaureate degree which represents no less than thirty-six (36) hours of course work excluding Research and Dissertation (Biology 9000). A minimum of thirty (30) semester hours beyond the master's degree must be taken in residence. Biology B001 is required as well as active seminar participation.

2. *Foreign Language* — The prospective candidate shall be required to demonstrate a reading knowledge of two modern languages. Those languages accepted without restriction are French or Spanish, German and Russian. Three options are available for meeting this requirement: (a) a grade of "B" or better in the fourth semester course of the language approved by the student's Advisory Committee, (b) achievement of the 35th percentile ranking on the Graduate Student Foreign Language Test, or (c) a grade of "B" or better in Languages 6702. The Graduate School, at the recommendation of the candidate's committee, may allow substitution of another foreign language when such substitution will enhance the research and scholarly interests of the student.

Substitution of statistics, computer techniques, or some other research tool in lieu of one of the modern foreign languages is at the discretion of the student's committee with the approval of The Graduate School.

Foreign students who utilize their native language to satisfy the requirement must pass an English proficiency examination while registered at this institution.

3. *Comprehensive Examination and Candidacy* — After two years of course work the graduate student may take the written and oral comprehensive examination in his major area.

Admission to candidacy will be recommended to The Graduate School by the student's committee upon the satisfactory completion of the language requirements, the course work, completion of comprehensive examinations and acceptance of the dissertation project.

4. *Dissertation and Research Prospectus* — A dissertation will be required of all candidates for the doctorate. A minimum of eighteen (18) hours of research and dissertation credit must be scheduled during the graduate program. The dissertation must show a mastery of the techniques of scientific research, and it must be a distinct and new contribution to the body of scientific knowledge.

The student's committee must approve the topic, prospectus and the final dissertation.

5. *Final Examination* — The final examination will be conducted by the chairman of the student's committee. The committee will consist, insofar as possible, of the same persons involved in the comprehensive examinations. The final examination will be an oral defense of the dissertation and will be announced and open to the public. Upon successful completion of the examination and all degree requirements, the chairman and the committee will recommend awarding the Ph.D. by The Graduate School.

E060 BIOLOGY (BIOL)

*6010. *Marine Aquaculture*. (6). History, principles, problems and procedures relating to the culture of commercially important crustaceans, fish, and mollusks along the Gulf coast. PREREQUISITES: General zoology or invertebrate and vertebrate zoology or permission of the instructor. [0418-1]

*6051. *Marine Ecology*. (5). Relationship of marine organisms to their environment, includes the effects of temperature, salinity, light, nutrient concentration, currents and food on the abundance and distribution of marine organisms. PREREQUISITES: General botany, invertebrate zoology, analytical chemistry. [0420-1]

*6052. *Salt Marsh Ecology*. (4). Emphasis on the botanical aspects of local marshes, includes plant identification, composition, structure, distribution, and development of coastal marshes. PREREQUISITE: Ten hours of biology including introductory botany. [0418-1]

*6200. *Marine Botany*. (4). Local examples, of the principal groups of marine algae and maritime flowering plants, treating structure, reproduction, distribution, identification and ecology. PREREQUISITE: Ten hours of biology, including introductory botany, or consent of instructor. [0418-1]

*6500. *Marine Microbiology*. (5). Role of microorganisms in the overall ecology of the oceans and estuaries. Sampling procedures, taxonomy of marine bacteria, mineralization, microbial fouling, pollution, and diseases of marine animals. PREREQUISITES: General microbiology and advanced general microbiology or consent of instructor. [0418-1]

*6600. *Marine Vertebrate Zoology and Ichthyology*. (6). Marine Chordata, including lower groups and the mammals and birds, with most emphasis on the fishes. PREREQUISITES: Sixteen semester hours of zoology including comparative anatomy and junior standing. [0418-1]

*6646. *Marine Fisheries Management*. (4). Philosophy, objectives, problems and principles involved in management decisions. Lecturers will include specialists in biology, fisheries statistics, sanitation and marine law. PREREQUISITES: Consent of instructor. Four semester hours of graduate or undergraduate credit. [0418-1]

*6800. *Marine Invertebrate Zoology*. (6). Marine invertebrates, especially those of the Mississippi Sound region. Emphasis on the structure, classification, phylogenetic relationships, and functional processes. PREREQUISITES: Sixteen semester hours of zoology. [0418-1]

*6844. *Parasites of Marine Animals*. (6). Parasites of marine animals with emphasis on morphology, taxonomy, life histories and host parasite relationships. Lecture, laboratory and field work. PREREQUISITES: General parasitology or consent of the instructor. [0418-1]

*7093. *Problems in Zoology*. (3-6). Supervised research on specific problems in marine zoology for graduates. PREREQUISITE: BIOL 6800 or 6600. [0418-8]

*These courses listed above are taught at the Gulf Coast Research Lab, Ocean Springs, Mississippi. Memphis State University residence credit is given through affiliation with the laboratory.

6001. *General Toxicology*. (4). Introductory study of the harmful actions of chemicals on biological mechanisms. Three lecture, two laboratory hours per week. PREREQUISITES: BIOL 2000, CHEM 3312 or consent of the instructor. [0426-1]

6031. *Bioenergetics*. (4). Analysis of the diversity and unity of energetics in living systems. Emphasis on the cellular components to different modes of bioenergetics. Three lecture and two laboratory hours per week. PREREQUISITE: CHEM 3312. [0415-1]

6050. *Field Technique in Ecology*. (4). Applied ecology covering practical training in forest, field, aquatic, and atmospheric sampling and analysis. Extended field trips. Two lecture, four laboratory hours per week. PREREQUISITE: Consent of instructor. [0420-1]

6060. *Limnology*. (4). Physical and chemical attributes of lakes, ponds and streams; organisms of fresh water; problems of production; laboratory work emphasizes Tennessee lakes, and practical training in limnological methods and identification of organisms. Two lecture, four laboratory hours per week. PREREQUISITE: BIOL 1600, and one year of chemistry. [0499-1]

6080. *Radiation Biology*. (3). Origin and characteristics of ionizing radiations with a detailed discussion of radiation effects upon life processes from the molecular to the ecosystem level. Two lecture, two laboratory hours per week. PREREQUISITES: CHEM 3311 or 3312; BIOL 3070. [0423-1]

6100. *Organic Development*. (3). Theoretical and scientific evidences concerning the origin, development, and establishment of the major groups of living and extinct animals and plants. PREREQUISITE: one year of biology. Recommended for biology majors and general students. [0401-1]

6130. *Cell and Molecular Biology*. (4). Introduction to the principles of molecular biology including discussions of ultrastructure, intracellular metabolism, gene structure and function, and cell differentiation. Two lecture and four laboratory hours per week. PREREQUISITES: BIOL 2000 or its equivalent, BIOL 3070, and CHEM 3312. [0416-1]

6160. *Histological Techniques*. (4). Methods of preparing plant and animal materials for microscopic study; theories of staining and preparation of permanent mounts. One lecture, six laboratory hours per week. PREREQUISITE: BIOL 2000 or the equivalent or consent of instructor. [0413-1]

6225. *Mycology*. (4). Basic life cycles, morphology and classification of fungi. Consideration of the interaction of fungal organisms in the environment. Two lecture, four laboratory hours per week. PREREQUISITE: BIOL 2000 or the equivalent or consent of instructor. [0499-1]

6226. *Phycology*. (4). Systematic and comparative study of the morphology and reproduction of algae with emphasis on the fresh water forms. Selected topics on algal genetics, algal physiology and pollution. Two lecture, four laboratory hours per week. PREREQUISITE: BIOL 2000 or equivalent or consent of the instructor. [0499-1]

6231. *Plant Physiology*. (4). Principles of physiology and their application to the lower plant groups, exclusive of the bacteria and related forms. Two lecture, four laboratory hours per week. PREREQUISITE: BIOL 2000 or its equivalent. [0406-1]

6232. *Plant Physiology*. (4). Principles of physiology and their application to the living organism as a whole, with emphasis on higher plants. Two lecture, four laboratory hours per week. PREREQUISITE: BIOL 2000 or the equivalent. [0406-1]

6240. *Plant Taxonomy*. (4). Principles of plant taxonomy. Special attention to the classification of selected vascular plant families. Field trips. Two lecture, four laboratory hours per week, with field trips. PREREQUISITE: BIOL 3240 or permission of instructor. [0499-1]

6250. *Forest Ecology*. (4). Development and structural analysis of forest types. lands. Regional silviculture in the United States. Autecology of important species. Field trips to be arranged. Three lecture, two laboratory hours per week. PREREQUISITE: BIOL 3050 or consent of instructor. [0420-1]

6440. *Pathogenic Microbiology*. (4). Pathogenic bacteria, the diseases they cause and methods of diagnosis with an introduction to immunological principles and immunity. Considerable attention to laboratory methods used for identification of pathogenic bacteria. Two lecture, four laboratory hours per week. PREREQUISITE: BIOL 3500, with organic chemistry desirable. [0411-1]

6444. *Immunology*. (4). In vitro and in vivo reactions of antigens and antibodies, hypersensitivities, blood groups and vaccines. Two lecture, four laboratory hours per week. PREREQUISITES: BIOL 3500 and CHEM 3311. [0408-1]

6460. *Sanitary Bacteriology*. (4). Microorganisms in relation to water and sewage; disinfection and disinfectants. Two lecture, four laboratory hours per week. PREREQUISITE: BIOL 3500 or consent of instructor. [0403-1]

6470. *Molecular Genetics*. (4). Structure, functions and replication of DNA, recombination, the colinearity of DNA with the genetic map, mutagenesis, gene transfer, plasmids, the code, protein synthesis, suppression, regulation of gene expression, genetic engineering. For students without formal training in molecular genetics. Two lecture, four laboratory hours per week. PREREQUISITE: Organic chemistry or consent of the instructor. [0422-1]

6560. *Microbiology of Foods*. (4). Microorganisms in natural and processed foods; origins, nature and effects on foods, enumeration, and the relation to health. Two lecture, four laboratory hours per week. PREREQUISITE: BIOL 3500 or consent of instructor. [0411-1]

6604. *Ethology*. (4). Animal behavior with emphasis on recent developments in the field, including history of ethology, learning, releasers, communication, orientation, instinct, biologic clocks, and evolution of behavior. Two lecture, four laboratory hours per week. PREREQUISITE: BIOL 1600 or equivalent. [0499-1]

6620. *Vertebrate Histology*. (4). Microscopic study of normal tissues and organs of the vertebrate body. Three lecture, four laboratory hours per week. PREREQUISITE: BIOL 3610 or 3620 or permission of instructor. [0413-1]

6630. *General Endocrinology*. (3). Anatomy and physiology of the organs of internal secretion; role of hormones in metabolism and development. Three lecture-demonstration hours per week. PREREQUISITE: BIOL 3730. [0410-1]

6640. *Field Zoology*. (4). Field study of the identification, life history, and habitat of the animals of this locality; birds and insects are omitted. Two lecture, four laboratory hours per week. PREREQUISITES: 8 semester hours of biology, including BIOL 1600 or the equivalent. [0407-1]

6644. *Ichthyology*. (4). Fishes, with special emphasis upon the kinds which occur in Tennessee; collection, preservation and identification; life histories, management, and economic importance of fishes. Two lecture, four laboratory hours per week. PREREQUISITE: BIOL 1600. [0499-1]

6651. *Field Techniques in Vertebrate Zoology*. (4-6). Techniques in the field study of vertebrates. Extended field study outside the local area. Number of hours credit to be determined in consultation with instructor. [0407-9]

6720. *Vertebrate Neurology*. (4). Nervous system of selected vertebrates. Three lecture, four laboratory hours per week. PREREQUISITES: BIOL 1600 or permission of the instructor. [0425-1]

6740. *Mammalogy*. (4). Classification, distribution, life histories, economic importance, techniques of field study, methods of collection and preservation of mammals. Two lecture, four laboratory hours per week. PREREQUISITE: BIOL 3620 or permission of instructor. [0499-1]

6744. *Herpetology*. (4). Classification, distribution, life histories, techniques of collection and preservation, natural habitats of North American reptiles and amphibians. Two lecture, four laboratory hours per week. PREREQUISITE: BIOL 3620 or 3700 or permission of instructor. [0499-1]

6770. *Mammalian Genetics*. (4). Principles of heredity of mammals with primary emphasis on mice and humans. Three lecture, two laboratory hours per week. PREREQUISITE: BIOL 3070 or the equivalent. [0422-1]

6820. *Protozoology*. (4). Free-living and parasitic protozoa with consideration given to structure, function, taxonomy, habitat, and life history. [0499-1]

6901. *Field Techniques in Entomology*. (4). Field techniques used in aquatic entomology and larval taxonomy. Two lecture, four laboratory hours per week. PREREQUISITES: BIOL 1600 or the equivalent and permission of instructor. [0421-1]

6920. *Insect Morphology*. (4). Form and structure of insects considering both external and internal morphology. Two lecture, four laboratory hours per week. PREREQUISITE: BIOL 1600 or the equivalent. [0421-1]

6930. *Insect Physiology*. (4). Physiology as applied to the life processes of insects. Two lecture, four laboratory hours per week. PREREQUISITES: BIOL 2000 or the equivalent. [0410-1]

7000. *Seminar in Biological Literature*. (2). Sources of literature in the field of biology and experience in the utilization of such sources in biological research. Class reports and term papers required. [0401-1]

7001-8001. *Unifying Principles of Biology*. (4). Principles of biology from contributions of all major fields of science. Required for all candidates for the doctoral degree as early in their program as possible. PREREQUISITE: Student must be pursuing doctoral program in the department, or if a master's candidate must have permission of the instructor. [0401-1]

7010-8010. *Principles and Methods of Systematic Zoology*. (4). Systematic philosophies and numerical methods developed to deal with systematic and taxonomic problems. Discussions of international rules, concept of species, and the roles and attitudes of practicing systematists. Projects designed to give practical experience in analyzing data. Two lecture and two laboratory hours per week. PREREQUISITE: BIOL 2000 or consent of instructor. [0407-1]

7030-8030. *Cytology*. (4). Functions and composition of individual cellular components, nuclearcytoplasmic relationship, chromosomal variations and their genetic expression. Two lecture, two laboratory hours per week. PREREQUISITE: BIOL 1200 and 1600 or equivalent. [0417-1]

7031. *Cellular Physiology*. (4). Cell function; cellular thermodynamics; exchange of materials across cell membranes; physiological buffering systems; enzyme kinetics; cellular respiration and cellular response to extracellular perturbation. Two lecture, four laboratory hours per week. PREREQUISITE: BIOL 300 and CHEM 3312 or permission of instructor. [0417-1]

7070-8070. *Cytogenetics*. (4). Current theories concerning the nature of the gene and the mechanisms of recombination and mutation. Chromosome aberrations and their genetic behavior. Two lecture, four laboratory hours per week. PREREQUISITE: BIOL 3070. [0417-1]

7091. *Special Problems*. (4). Qualified students may be given special problems which they will investigate. The investigation will be pursued under the supervision of a member of the graduate staff and reported in the form of a written paper. [0401-1]

7092. *Research*. (2-4). The student through consultation, reading, and laboratory work will investigate selected topics of some phase of biology. A formal paper giving a review of the literature and the results of the investigation will be required. [0401-8]

7100. *Instrumentation*. (2). A consideration of recent developments in biological techniques which may be applied in study of living organisms. Two lecture hours per week. [0401-1]

101-8101. Biological Electron Microscopy. (4). Introduction to techniques in electron microscopy for biologists. One lecture, six laboratory hours per week. PREREQUISITE: Consent of instructor. [0401-1]

102-8102. Advanced Biological Electron Microscopy. (4). Advanced techniques in electron microscopy for biologists. One lecture, six laboratory hours per week. PREREQUISITE: BIOL 101-8101. [0401-1]

130-8130. Comparative Animal Physiology. (4). Analysis of the physiological mechanisms of animal adaptation and their relevance to evolution, distribution and survival in diverse environments. Two lecture, four laboratory hours per week. PREREQUISITE: Must be a registered medical technologist accepted to the Stratton Blood Bank Training Center, Methodist Hospital. [0410-1]

160. Immunohematology I. (6). Hematology, coagulation and donor selection and care concerning advanced clinical principles and techniques necessary for specializing in blood banking. Three lecture, six laboratory hours per week. PREREQUISITE: Must be a registered medical technologist accepted to the Stratton Blood Bank Training Center, Methodist Hospital. [1223-1]

161. Immunohematology II. (6). Blood banking concerning advanced clinical principles and techniques necessary for specializing in blood banking. Two lecture, eight laboratory hours per week. PREREQUISITE: Must be a registered medical technologist accepted to the Stratton Blood Bank Training Center, Methodist Hospital. [1223-1]

170-8170. Population Genetics. (4). Mutation, migration, selection, behavior and maintenance of variability as they affect the genetic structure of natural populations. Two lecture, four laboratory hours per week. PREREQUISITE: BIOL 3070 or equivalent. [0422-1]

7200. Seminar in Biology. (1). (Open to Biology majors only.) Consideration of selected topics in the biological sciences. Credit is earned when an approved topic is presented to the department prior to the final semester in residence. [0402-1]

222-8222. Advanced Morphology of the Flowering Plants. (4). Origin, development, embryology and embryogeny, anatomy and vascularization of organs of flowering plants. Includes comparative studies of micro- and mega sporogenesis and micro- and megagametophyte development, pollination and fertilization. Palynology in light of its economic importance from the standpoint of anthropological and health studies. Two lecture, four laboratory hours per week. PREREQUISITES: Graduate standing. BIOL 1200, 3221 or 3222 or consent of the instructor. [0406-1]

250-8250. Advanced Plant Ecology. (4). Consideration of plant distribution on a worldwide and local basis with emphasis on the factors influencing plant distribution and growth. Two lecture, four laboratory hours per week. PREREQUISITE: BIOL 3050 or consent of the instructor. [0420-1]

30-8330. Intermediary Plant Metabolism. (3). Metabolism of carbohydrates, fats and nitrogen compounds in higher plants. Three lecture hours per week. PREREQUISITES: BIOL 2000, or equivalent, and CHEM 3312, or equivalent, or permission of instructor. [0404-1]

331-8331. Photosynthesis. (2). Lectures and readings on modern theory of photosynthesis. Includes such topics as chloroplast structure and function; chemistry and photochemistry of chlorophyll; influence of external factors on rate of photosynthesis; absorption, fluorescence, and luminescence; energy storage; efficiency; carbon fixation; photosynthesis in cell extracts; phosphorylation. Two lecture hours per week. PREREQUISITES: BIOL 1200, 6231, 6232, 7330. [0423-1]

50-8450. Microbial Ecology. (3). A physiological biochemical approach to microbial ecology employing techniques of microbiology and molecular biology as applied to ecological problems which affect the quality of our environment. PREREQUISITE: OL 3500; CHEM 3312 or consent of instructor. [0420-1]

64-8464. Advanced Immunology. (4). Advanced topics and techniques in immunobiology and immunochemistry. Two lecture, four laboratory hours per week. PREREQUISITES: BIOL 44 and CHEM 6511 or their equivalents. [0408-1]

00-8500. Virology. (4). Introduction to the viruses. Principles methodology concerning origin, development, classification, and propagation. Three lecture, two laboratory hours per week. PREREQUISITE: BIOL 3500 and organic chemistry. [0499-1]

30-8530. Bacterial Physiology. (4). Bacterial physiology including growth, nutrition, biosynthesis, and adaptation. Three lecture, two laboratory hours per week. PREREQUISITES: BIOL 00, or its equivalent, and at least one year of chemistry. [0403-1]

60-8560. Industrial Microbiology-Biodeterioration. (4). Microbial deterioration activities of industrial importance. Two lecture and four laboratory hours per week. PREREQUISITE: BIOL 30 or permission of instructor. [0411-1]

61-8561. Industrial Microbiology-Fermentation. (4). Microbial fermentations resulting in the production of alcohols, acids, antibiotics, vitamins, steroids, amino acids, and other industrially significant materials. Two lecture and four laboratory hours per week. PREREQUISITE: BIOL 7530 or permission of instructor. [0411-1]

600. Seminar in Biology. (1). Selected topics in the biological sciences. Credit is earned when the student presents the results of his thesis research. PREREQUISITE: BIOL 7200. [0401-1]

30-8730. Mammalian Physiology. (5). A concentrated investigation of the functional activities of a typical mammal. Two lecture, six laboratory hours per week. PREREQUISITES: BIOL 20 and 3730. [0410-1]

50-8750. Animal Ecology. (4). Relationship of animals to their environments with special emphasis upon population dynamics and ecological relationships at the population level. Two lecture, four laboratory hours per week. PREREQUISITES: BIOL 500 and 1600. [0420-1]

00-8800. Pathology of Invertebrates. (4). Diseases of invertebrates to include causal biological agents and both physiological and histological pathology. Three lecture, two laboratory hours per week. PREREQUISITE: BIOL 3500 or consent of the instructor. [0408-1]

7844-8844. Advanced Parasitology. (4). Animal parasitology with emphasis on techniques and experimental approaches in parasitology. Two lecture, four laboratory hours per week. PREREQUISITE: BIOL 3800 or consent of instructor. [0499-1]

7920-8920. Advanced Insect Morphology. (3). Comparative studies of selected insect groups. One lecture, four laboratory hours per week. PREREQUISITE: BIOL 3920 or the equivalent. [0409-1]

7930-8930. Advanced Insect Physiology. (3). Physiology of various organ systems of insects. One lecture, four laboratory hours per week. PREREQUISITE: BIOL 3930 or the equivalent. [0410-1]

7960-8960. Applied Entomology. (4). Identification, ecology, and distribution of special insect groups are studies. Principles and methods of chemical and biological control, mode of action of pesticides and their effect on the environment. PREREQUISITE: BIOL 3940 or 3960, or permission of the instructor. [0421-1]

†7996. Thesis. (1-6). [0401-6]

†8200. Seminar in Biology. (1). Selected topics in biological sciences. Credit earned when a seminar on the dissertation problem and research is presented to the department during the second year of the doctoral program. [0401-1]

†8600. Seminar in Biology. (1). Selected topics in biological sciences. Credit earned when the student presents the public oral defense of his dissertation research. PREREQUISITE: BIOL 8200. [0401-1]

†9000. Doctoral Research and Dissertation (1-10). The dissertation must be an independent research project applying a mastery of the techniques of scientific research. It must be a distinct and new contribution to the body of scientific knowledge and be published or accepted for publication wholly or in part in a recognized journal acceptable to the student's committee. Minimum total of 18 hours is required. [0401-7]

†Grades of S, U, or IP will be given.

CHEMISTRY

PROFESSOR JAMES C. CARTER, *Chairman*
Room 210, J.M. Smith Building

DR. WILLIAM H. ZUBER, JR., *Coordinator of Graduate Studies*

I. Graduate study in the Department of Chemistry is designed to develop a broad foundation of reasonable depth in chemistry as well as to emphasize original and authoritative research, making use of the most modern techniques and skills. Experience has shown that these goals can best be achieved by a combination of a limited number of formal discussion groups as well as formal seminars. Only through a diverse program that meets the needs of the individual student can graduate training prepare students to assume roles of leadership in academic and industrial research, college and junior college teaching, and the interdisciplinary demands of industrial and government laboratories.

II. The Department of Chemistry offers graduate programs leading to the Master of Science and Doctor of Philosophy degrees with a major in chemistry. Concentrations are available in inorganic, analytical, organic, physical, and biochemistry. Related courses may be taken in other departments including physics, mathematics, geology, and engineering and in fields other than the student's major within the Department of Chemistry.

III. M.S. Degree Program

A. Program Admission and Prerequisites

Prospective students, in addition to meeting the requirements for admission to The Graduate School, are required to present as a prerequisite for admission a satisfactory record of undergraduate work in chemistry; normally 32 semester hours of chemistry will be required. Students who are deficient in undergraduate work may be admitted and the deficiencies removed without graduate credit. Candidates for admission are expected to have taken the Aptitude Section and the Advanced Chemistry Section of the Graduate Record Examinations so that their scores may be submitted along with their applications. Students who are unable to take this examination before entering will be required to do so at the first opportunity after enrolling.

B. Program Requirements

1. **Diagnostic Examinations** — In the week preceding registration for each semester, a series of four examinations in the specializations of physical, inorganic, organic, and analytical chemistry will be administered to incoming graduate students. The purpose of these examinations is to aid in the advising of entering students, and to insure that the students have a broad enough background to undertake a specialized advanced degree program. These examinations will be comparable to final examinations given in the undergraduate program at Memphis State University in the courses CHEM 3312 (organic), CHEM 3412 (physical), CHEM 4111 (inorganic), and CHEM 4220 (analytical instrumentation). Any of the four parts not passed must be repeated each time that it is offered. A student can elect to enroll in the course designated above in lieu of repeating a part of the examination. A grade of B or better must be obtained to satisfy the requirement. A student who has not satisfied the requirement for each part after the third opportunity will be dropped from the Master's program. The student is advised against, but not prohibited from, taking a graduate course in an area in which he failed the examination until he has successfully removed the deficiency.

2. **Course Work Requirements** — The thirty semester hour total required is subject to the following restrictions.

a. Twelve hours must be selected from four different specializations utilizing some combination of the following courses: Inorganic 7111-8111; Analytical 7211-8211; Organic 7311-8311; Physical 7411-8411; Biochemistry 7511-8511 (or 7510-8510).

b. A maximum of six semester hours of Chemistry 8000 (Research and Dissertation/Thesis) and/or Chemistry 9000 (Doctoral Research and Dissertation) can be applied to the thirty semester hour requirement.

c. A maximum of three semester hours of Chemistry 7910-8910 (Special Problems in Chemistry) may be counted toward the thirty semester hour requirement.

d. A maximum of three semester hours of Chemistry 8913 (Seminar) can be used to meet the thirty semester hours required.

e. A maximum of six semester hours credit can be granted for graduate courses successfully completed at other accredited institutions.

3. **Cumulative Examinations** — Not later than the semester after which the student has successfully completed ten semester hours of credit to be applied toward the thirty semester hour requirement, he must begin the cumulative examinations. These are described in the summary of the administration of the graduate program. A student pursuing the master's degree is permitted to take a maximum of eight tests on which he must obtain a total of at least six points. Any student who has not amassed six points at the completion of eight tests is automatically terminated from the master's degree program.

4. Graduate students who express an interest in going into the teaching profession are required, as a part of their professional training, to participate in the duties of the department as Teaching Assistants, the extent of this training to be determined by the Advisory Committees, the needs of the department, and the funds available.

5. **Seminar** — Participation in seminar (Chemistry 8913) is required during each semester of residence (excluding summer terms). A maximum of three semester hours of credit for Chemistry 8913 is allowable toward the thirty semester hours required for graduation. Each student is required to present at least one formal seminar before graduation.

6. **The Advisory Committee** — Upon admission to the Graduate School, the student will be advised by the Chemistry Graduate Committee. As soon as possible, but not later than the beginning of the semester following the accumulation of ten semester hours of graduate credit, the student must select a major professor and initiate a research problem under his guidance. The major professor, in consultation with the student, will recommend to the department chairman faculty members to be appointed to the student's advisory committee. This committee, which is appointed as soon as the student has selected a major professor, must be composed of at least three members, with the major professor serving as chairman. Upon appointment, the committee will review the student's progress to date, and outline an appropriate program tailored to the student's individual interests to permit him to fulfill the degree requirements.

7. **Thesis** — Each student must submit a thesis acceptable to the student's advisory committee. The thesis may be based on work done for CHEM 8000 or 9000, for which a maximum of six credit hours can be applied to the degree requirement.

8. **Comprehensive Examination** — A final oral examination on the student's thesis and related material will be administered by the student's advisory committee after he has completed all course requirements and the thesis. This examination will be held seven or more days after the student has distributed copies of his thesis to the members of the advisory committee. If the final oral examination is unsatisfactory, it must be repeated within one year; it may not be repeated more than once.

9. **Retention** — A student pursuing the Master's degree program may be terminated for any of the following reasons.

a. Failure to demonstrate proficiency on each part of the diagnostic examinations (See Section 1)

b. Failure to maintain a grade point average of 3.0 or above. A student who has a cumulative grade point average below 3.0 will be placed on probation. Continuation in graduate school must be approved by the Dean of the Graduate School. Any person whose continuation is denied may appeal the decision to the Council for Graduate Studies and Research.

c. Failure to accumulate the requisite number of points on the departmental cumulative examinations (See Section 3).

d. Failure to complete the degree requirements within six years of initial enrollment in the graduate program.

e. Failure to satisfy the advisory committee on the final oral examination (See Section 8).

IV. Ph.D. Degree Program

A. Program Admission

See M.S. admission requirements.

B. Program Requirements

1. **Diagnostic Examinations** — In the week preceding registration for each semester, a series of four examinations in the specializations of physical, inorganic, organic, and analytical chemistry will be administered to incoming graduate students. The purpose of these examinations is to aid in the advising of entering students, and to insure that the students have a broad enough background to undertake a specialized advanced degree program. These examinations will be comparable to final examinations given in the undergraduate program at Memphis State University in the courses CHEM 3312 (organic), CHEM 3412 (physical), CHEM 4111 (inorganic), and CHEM 4220 (analytical instrumentation). Any of the four parts not passed must be repeated each time that it is offered. A student can elect to enroll in the course designated above in lieu of repeating a part of the examination. A grade of B or better must be obtained to satisfy the requirement. A student who has not satisfied the requirement for each part after the third opportunity will be dropped from the Doctor's program. The student is advised against, but not prohibited from, taking a graduate course in an area in which he failed the examination until he has successfully removed the deficiency.

A student who holds the M.S. degree in chemistry at the time of initial registration is usually not required to take the diagnostic examinations.

2. Course Work Requirements — The Doctor's degree program includes the requirement of the satisfactory completion of a minimum of 72 semester hours of graduate credit. The 72 hour total is subject to the following restrictions:

a. Twelve hours must be selected from four different specializations utilizing some combination of the following courses: Inorganic 7111-8111; Analytical 7211-8211; Organic 7311-8311; Physical 7411-8411; Biochemistry 7511-8511 (or 7510-8510).

b. A maximum of 30 hours credit for CHEM 8000 (Research and Dissertation-Thesis) and CHEM 9000 (Doctoral Research and Dissertation) combined can be applied toward the 72 hour total.

c. A maximum of 12 hours of CHEM 7910-8910 (Special Problems in Chemistry) may be credited toward the total hour requirement.

d. A maximum of 12 hours of course work may be included in a field related to chemistry (physical or biological sciences, mathematics, or engineering). Courses taken in related areas must be numbered 6000 or above.

e. A maximum of three semester hours of CHEM 8913 (Chemistry Seminar) can be used to meet the 72 semester hours required.

f. The 72 hour requirement can be reduced by a maximum of 30 hours based on graduate courses successfully completed at other accredited institutions. Of the remaining 42 hours required in this event, a minimum of 18 hours must be in courses other than CHEM 8000, CHEM 9000, CHEM 8913, and CHEM 7910.

3. Residence and Transfer Credit — Transfer credit does not become a part of the student's record for the purpose of computing the grade point average, but serves to reduce the total semester hour requirement at Memphis State University. Thus, for a student who has successfully completed the M.S. degree requirements at another institution, the semester hour requirement at Memphis State University could be reduced to 42 hours by transfer of 30 hours maximum. Of the remaining 42 hours, a minimum of 18 hours must be taken in courses exclusive of CHEM 8000, CHEM 9000, CHEM 8913, and CHEM 7910.

Of the total semester hour requirement, a minimum of 24 hours must be earned while the student is at Memphis State University. This requirement cannot be met wholly by attendance at Summer Sessions, and must include at least one academic year of full-time student status.

4. Cumulative Examinations — Not later than the semester after which the student has successfully completed ten semester hours of credit to be applied toward the 72 hour requirement he must begin the cumulative examinations. These examinations are as described in the summary of the administration of the graduate program. A student pursuing the Doctor's degree is permitted to take a maximum of twelve tests on which he must obtain a total of at least sixteen points. Any student who has not amassed sixteen points at the completion of twelve tests is automatically terminated from the Doctor's degree program.

A student who enters the Ph.D. program and already holds the M.S. degree in chemistry must begin taking the cumulative examinations at the first opportunity after initial enrollment unless he has been required to take the diagnostic examinations.

5. Graduate students who express an interest in going into the teaching profession are required, as a part of their professional training, to participate in the duties of the department as Teaching Assistants, the extent of this training to be determined by the Advisory Committees, the needs of the department, and the funds available.

6. Seminar — Participation in Seminar (CHEM 8913) is required during each semester of residence (excluding summer terms). A maximum of three semester hours of credit for CHEM 8913 is allowable toward the 72 semester hours required for graduation. Each student is required to present at least one formal seminar before graduation.

7. The Advisory Committee — Upon admission to the Graduate School, the student will be advised by the Chemistry Graduate Committee. As soon as possible, but not later than the beginning of the semester following the accumulation of ten semester hours of graduate credit, the student must select a major professor and initiate a research problem under his guidance. The major professor, in consultation with the student, will recommend to the department chairman faculty members to be appointed to the student's Advisory Committee. This committee, which is appointed as soon as the student has selected a major professor, must be composed of at least five members, with the major professor serving as chairman. Of the members of this committee, one or two are to be from a different area of specialization than that in which the student intends to work. Upon appointment, the committee will review the student's progress to date, and outline an appropriate program tailored to the student's interests to enable him to fulfill the degree requirements.

A student who enters the Ph.D. program and already holds the M.S. degree in chemistry must select a major professor during his first semester in residence, or upon completion of the diagnostic examinations.

In the event that a student changes major professors, a new Advisory Committee must be appointed.

8. Admission to Candidacy — In order to apply for candidacy, the student must have an Advisory Committee and must have taken the Graduate Record Examinations. To be considered, he must have successfully completed the departmental cumulative examination requirement. The cumulative examinations collectively are considered to be equivalent to the qualifying examination required by the Graduate School. The test scores, transcripts, and other pertinent data will be examined by the student's Advisory Committee, and their recommendation, with the approval of the Department Chairman, will be forwarded to the Graduate Dean.

9. Language Requirement — The knowledge of at least one foreign language is required. Usually, the language is either German or Russian, but another language may be acceptable,

based on the evaluation by the student's Advisory Committee. The language requirement can be met by written examination, by the satisfactory completion of two years of college work in the language, or by transfer of credit in the case of entering students who have successfully completed a graduate language examination at another institution. In exceptional cases, a thorough knowledge of computer programming languages may, with the approval of the student's Advisory Committee, be used to satisfy this requirement.

For the benefit of those students who elect to take a written language examination, the department shall administer semesterly examinations in appropriate languages. It is advisable that the student take the examination at the first scheduled date possible after his committee is appointed. These examinations, which are to be of one-hour duration, are designed to test the ability of the student to translate, with the aid of a dictionary, material similar to that found in the current chemical journals published in that language.

A student who undertakes a written language examination and fails shall repeat the examination each time it is subsequently offered until he has satisfactorily completed it.

10. Research Prospectus — After the student has selected the research problem on which his dissertation is to be based, he should prepare a Research Prospectus to be presented to representatives of the graduate staff as a preliminary, oral presentation of the problem. The Research Prospectus must be presented before the end of the second semester following completion of ten semester hours of graduate course work.

A student who enters the Ph.D. program having previously obtained the M.S. degree in chemistry is required to present a Research Prospectus before the completion of two semesters. A student who changes major professors must present a new Research Prospectus within one semester after the change is made.

The Research Prospectus is intended not so much as an examination as an opportunity to receive suggestions and evaluations of the student's proposed study. The student's Advisory Committee may elect to have the student report at intervals on the progress of and projections for his work, particularly if it deviates significantly from the original outline.

11. Doctoral Research and Dissertation — Registration for nine to thirty semester hours of CHEM 9000 and CHEM 8000 combined is required of all doctoral candidates before the dissertation will be considered.

12. Comprehensive Examination — A final oral examination on the student's dissertation and related material will be administered by the student's Advisory Committee after he has completed all course requirements and the dissertation. This examination will be held seven or more days after the student has distributed copies of his dissertation to the members of the Advisory Committee. If the final oral examination is unsatisfactory, it must be repeated within one year. It may not be repeated more than once.

13. Retention — A student pursuing the Doctor's degree program may be terminated for any of the following reasons:

a. Failure to satisfy each part of the diagnostic requirements. (See Section 1.)

b. Failure to maintain a grade point average of 3.0 or above. A student who has a cumulative grade point average below 3.0 will be placed on probation. Continuation in graduate school must be approved by the Dean of the Graduate School. Any person whose continuation is denied may appeal the decision to the University Council for Graduate Studies and Research.

c. Accumulation of more than six semester hours of graduate credit with grades of C or below.

d. Failure to accumulate the requisite number of points on the departmental cumulative examinations. (See Section 4.)

e. Failure to satisfy the Advisory Committee on the final oral examination. (See Section 12.)

E070 CHEMISTRY (CHEM)

6111. Inorganic Chemistry. (3). Theoretical and applied inorganic chemistry. Stress on the relationship of structure and bonding to the properties of elements and compounds. Topics include introductory molecular orbital theory, coordination compounds and organometallics, ligand field theory, nonaqueous solvent systems, and reaction mechanisms. *Three lecture hours per week. PREREQUISITE:* CHEM 3412, or permission of the instructor. [1906-1]

6220. Instrumental Methods. (3). Theory and application of the principles of electrometric, spectrometric, and chromatographic methods to the collection and interpretation of physical chemistry data; the applications of such methods to analysis; and a study of basic aspects of chemical instrumentation. Experimental techniques include advanced portions of electrochemistry; work in the UV, visible, IR, and NMR regions of the electromagnetic spectrum; gas chromatography; and instrument design. *Two lecture, six laboratory hours per week. PREREQUISITE:* CHEM 3412. [1905-1]

6501. Biochemistry Laboratory. (1). Investigation of physical and chemical properties of compounds of biological interest by common laboratory techniques. Assay of enzymes and enzyme kinetics are stressed. *Three laboratory hours per week. PREREQUISITES:* CHEM 3302 or 3601 and CHEM 3312. *COREQUISITE:* CHEM 6511. [0414-1]

6502. Biochemistry Laboratory. (1). Biochemical laboratory techniques with special emphasis on fractionating biological samples and measuring metabolic activity. *Three laboratory hours per week. PREREQUISITE:* CHEM 4511. [0414-1]

6511. Biochemistry. (3). Chemistry of amino acids and proteins as related to their properties in biochemical systems. Enzymology, including kinetics and conformation studies. Coenzymes and their functions. The chemistry of carbohydrates, lipids and nucleotides. *Three lecture, three laboratory hours per week. PREREQUISITE:* CHEM 3312. [0414-1]

6512. Biochemistry. (3). A continuation of CHEM 6511. Metabolism of carbohydrates, amino acids and nucleotides. Biochemistry of DNA and RNA, including their relationship to the biosynthesis of proteins. Metabolic control. *Three lecture hours per week. PREREQUISITE:* CHEM 6511. [0414-1]

6900. Chemical Literature. (1). Use of chemical literature and the writing of technical reports. [1905-1]

7060. Selected Topics in Chemistry. (3). May include various topics illustrating the principles of modern chemistry and their applications in the areas of analytical, inorganic, organic, physical chemistry, and biochemistry. May not be applied toward major or minor in chemistry or physics. May be repeated for a maximum of 12 hours credit. *Three lecture hours per week. PREREQUISITE:* Permission of instructor. [1905-1]

7111-8111. Systematic Inorganic Chemistry. (3). Survey of inorganic chemistry, including electronic structure, bonding, stereochemistry, symmetry, and the physical and chemical properties of the elements and their compounds. [1906-1]

7112-8112. Structural Inorganic Chemistry. (3). Study of physical methods used to determine structure, and applications of group theory to chemical problems. [1906-1]

7113-8113. Inorganic Preparations. (1-3). Laboratory preparation, purification, and characterization of unique and/or highly reactive inorganic compounds. [1906-1]

7211-8211. Advanced Analytical Chemistry I. (3). Advance analytical techniques including electrochemistry, absorption and atomic spectroscopy, classical methods, radiochemical analyses, chromatography, and computer usage. [1909-1]

7212-8212. Advanced Analytical Chemistry II. (3). Continuation of topics discussed in CHEM 7211. [1909-1]

7213-8213. Spectrochemical Methods of Analysis. (3). Methods of analysis based on interaction of matter with electromagnetic radiation. Included are the methods based on the Beer-Lambert Law, ultra-violet, visible and infrared spectroscopy, as well as mass spectrometry, X-ray diffraction and fluorescence and electron diffraction. *PREREQUISITE:* Permission of instructor. [1909-1]

7311-8311. Organic Reaction Mechanisms. (3). Introduction to mechanisms of reactions of organic substances. [1907-1]

7312-8312. Advanced Synthetic Organic Chemistry. (3). Principles of synthesis of complex organic substances, with an introduction to the interpretation of spectral data in the structural assignment of reaction products. [1907-1]

7330-8330. Organic Preparations. (3). Utilization of the laboratory techniques employed in organic synthesis as illustrated by the preparation, purification, and characterization of organic compounds. [1907-1]

7411-8411. Advanced Physical Chemistry I. (3). Advance treatment of physical chemical principles including thermodynamics, kinetics, molecular spectroscopy and introductory quantum mechanics. *PREREQUISITE:* CHEM 3412 or the equivalent. [1908-1]

7412-8412. Advanced Physical Chemistry II. (3). Continuation of CHEM 7411 with emphasis on statistical thermodynamics, molecular structure, and dynamics. *PREREQUISITE:* CHEM 7411. [1908-1]

7413-8413. Chemical Thermodynamics. (3). (7411-8411) Classical thermodynamic study of chemical systems. [1908-1]

7414-8414. Quantum Chemistry. (3). The Schrodinger equation, and its solution in simple cases, application of group theory and theory of molecular bonding. *PREREQUISITE:* Permission of instructor. [1905-1]

7415-8415. Chemical Kinetics. (3). (7412-8412) Theory of homogeneous reactions, theory of absolute rates, homogeneous, and heterogeneous catalysis, and mechanisms of reactions. [1908-1]

7510-8510. Survey of Biochemistry. (3). Biochemistry for chemistry majors with no previous experience in biochemistry. *PREREQUISITE:* CHEM 3312 and 3412. [0414-1]

7511-8511. Advanced Biochemistry I. (3). Advanced treatment of the physical and chemical properties of compounds of biological interest. *PREREQUISITES:* CHEM 4512-6512 or 7510 or the equivalent. [0414-1]

7512-8512. Advanced Biochemistry II. (3). Continuation of CHEM 7511-8511 with emphasis on metabolic pathways and their control. *PREREQUISITE:* CHEM 7511-8511 or permission of instructor. [0414-1]

7513-8513. Experimental Methods in Biochemistry. (3). Introduction to modern biochemical laboratory techniques including the isolation and characterization of nucleic acids, enzyme and metabolites. The application of colorimetry, chromatography, centrifugation, electrophoresis, and radioisotope techniques will be discussed. *PREREQUISITE:* Permission of instructor. [0414-1]

†7910-8910. Special Problems in Chemistry. (3-12). Individual investigation and report under the guidance of the student's major adviser. [1905-8]

†7913-8913. Chemistry Seminar. (1). Formal meetings, presentation, and discussion of current topics of interest. Student faculty and visiting scientists participate. Required of all regularly enrolled graduate students. May be repeated for a maximum of 3 credits. [1905-1]

†8000. Research and Dissertation-Thesis. (1-6). An original investigation undertaken with the supervision of a member of the graduate staff. The investigation will be the basis of a dissertation or thesis. [1905-6]

†8100. Special Topics in Inorganic Chemistry. (1-3). Lectures and conferences covering selected areas of current interest (including coordination, organometallic, halogen, and boron compounds, ligand field theory, and reaction mechanisms). May be repeated for a maximum of 12 hours. *PREREQUISITE:* Permission of instructor. [1906-1]

†8200. Special Topics in Analytical Chemistry. (1-3). Lectures and conferences covering selected areas of current interest (including equilibrium, titrimetric, electroanalytical, and spectrometric methods, separation and radio-chemical techniques, microanalysis, statistics and data analysis, and electrode kinetics). May be repeated for a maximum of 12 hours. *PREREQUISITE:* Permission of instructor. [1909-1]

†8300. Special Topics in Organic Chemistry. (1-3). Lectures and conferences covering selected areas of current interest (including heterocyclic chemistry, organometallic compounds, organic sulfur compounds, alkaloids, steroids, terpenes, photochemistry).

ENGLISH

PROFESSOR JOSEPH K. DAVIS, *Chairman*

Room 467 Patterson Hall

DR. J. LASLEY DAMERON, *Coordinator of Graduate Studies*

I. The Department of English offers a program of study leading to the Master of Arts degree. When a student enters the program, he will consult with a departmental adviser to plan his course of studies.

II. M.A. Degree Program

A. Program Prerequisites

A minimum of 18 semester hours in upper division English courses, with a minimum grade point average of 2.5 in those courses.

B. Program Requirements

1. A total of 33 semester hours for the student who elects not to write a thesis or a total of 30 semester hours for the student who chooses to write a thesis. At least 18 hours must be in English courses numbered above 7000.

2. Each student's program must include the following:

a. Bibliography and Methods of Research (3): English 7801.

b. Chaucer or Studies in Medieval Literature (3): English 6231 or 7211.

c. Studies in Shakespeare or Studies in Renaissance Literature (3): English 7231 or 7212.

d. Three additional graduate courses in literature offered by the Department of English (9).

3. To complete the 30-33 hours of course work required for a Master of Arts degree in English, a student must take 15-18 additional hours. Normally, English majors will elect to take these courses in English. In some instances, advisers may recommend that the student take one or more courses in an area other than English, such as philosophy, history, or a foreign literature. Such exceptions should, however, relate to the student's major interest and specific program.

4. Oral comprehensive examination.

5. Reading knowledge of French, German, Latin, or Greek to be demonstrated by (a) 12 hours credit at the minimum grade in each course of C, earned within the last five years prior to entry into the graduate school or by (b) reading examination by date of completion of 12 semester hours of graduate courses in English. Substitution of an alternate foreign language may be considered by the Graduate Studies Committee if the student demonstrates a thorough command of a language which will be essential in the development of his thesis.

6. Thesis (English 7996: 3 or 6 hours) — optional.

7. A 3.0 average in English courses.

8. Each graduate teaching assistant in the Department of English must enroll in English 7003 at the first opportunity.

C. Collateral Area

1. *Prerequisites:* A minimum of 12 hours in upper division courses, with a minimum grade point average of 2.5 in those courses.

2. *Requirements:* A minimum of 12 hours in graduate English courses, at least 6 of which must be in courses numbered above 7000.

3. At least 3 hours in English literature before 1800 and 3 hours in English after 1800.

4. A 3.0 average in English courses.

Students not majoring in English must have at least 12 semester hours of upper division English courses with at least a 2.0 average in those courses as a prerequisite for taking any graduate course in English. All graduate students who wish to emphasize English composition and linguistics are advised to take English 7001 or 7003 or 7602, 7511, 7512, 7601, and Communication 7360.

E080 ENGLISH (ENGL)

6231. Chaucer. (3). Chaucer's growth as a literary artist, including a chronological reading of representative works and discussion of their philosophical and social content. [1502-1]

6234. Milton. (3). Milton's development as a literary artist, with emphasis on his poetry but with some attention to his prose. [1502-1]

6241. The English Novel. (3). Major English novels from the Renaissance to the mid-nineteenth century related to the study of the origin and development of the genre. [1502-1]

6242. The English Novel. (3). Major English novels from the mid-nineteenth century to the present, with attention to developments in the genre. [1502-1]

6251. English Drama. (3). Development of the genre in England from medieval times to 1642. [1502-1]

6252. English Drama. (3). English drama from 1660 to the present, with attention to developments in the genre. [1502-1]

6351. American Drama. (3). The development of American drama as a literary form studied in relation to the English and European tradition and to currents in American thought. [1502-1]

6501. History of the English Language. (3). Relationship of English to other Indo-European languages; of etymology and the effects of word-borrowing, word-formation, and semantic change on English vocabulary; and of the development of English sounds, inflections, and syntax. [1505-1]

7001. Language and Composition. (3). Studies in the craft of composition, with focus upon sound editorial practice and the writing and analysis of the varieties of expository prose. [1501-1]

5. A minimum of 18 hours of coursework at the 7000 level, including thesis hours. At least twelve hours of these must be taken in Criminal Justice. Because of the interdisciplinary nature of the program, the remainder of these courses may be taken in the Department of Criminal Justice or in a collateral area outside the department.

6. Satisfactory performance on a comprehensive examination

7. Students normally will be allowed more than 6 hours of credit in non-classroom courses such as internships, individually directed studies, and reading courses.

E075 CRIMINAL JUSTICE (CJUS)

6151. Socio-Medical Aspects of Criminal Justice. (3). Cultural aspects of crime, suicide, and sexual deviancy with emphasis on the medical role of prevention, detection, and treatment. Analysis of the role of the physician as an expert witness which will provide an insight into the contribution of the medical profession to criminal justice. [2105-1]

6424. The American Prison System. (3). Historical development, organizational structure, program content, and current problems of American correctional institutions. [2105-1]

6425. Community Based Corrections. (3). Community based strategies for dealing with criminal offenders. Topics include parole, probation, pardon, diversion programs, community residential services, restitution, the role of voluntary organizations, and correctional techniques suited to non-institutional settings. [2105-1]

6520. Substantive Criminal Law. (3). Substance of the crime, including common-law sources and basic principles, types of offenses, responsibility, justification and excuse, and related areas. [2105-1]

6532. Constitutional Rights of Prisoners. (3). Legal status of persons during preconviction and post-conviction confinement, including factors involving discipline, legal services, communication, medical aid, and related matters, with further consideration of civil and criminal liability of prison officials. [2105-1]

6533. The Juvenile Justice System. (3). History, organization, programs and procedures of agencies charged with control and prevention of juvenile delinquency including police, juvenile units, juvenile court, and juvenile correctional agencies. [2105-1]

7100. The Criminal Justice System. (3). History and philosophy of criminal justice. A systems approach; the interrelationship of the various components. Social and political issues related to the criminal justice systems. [2105-1]

7110. Individual Directed Study. (1-4). Individual-directed research/readings in special areas of interest in the field of criminal justice. *PREREQUISITE:* Permission of Coordinator of Graduate Studies in Criminal Justice. May be repeated for a maximum of 4 credit hours. [2105-8]

7128. Research Methods in Criminal Justice. (3). Principles of social science research as applied to the study of the criminal justice system. Sampling techniques and research strategies. Emphasis on the development of research skills enabling the student to conduct an independent research project. [2105-1]

7130. Crime Analysis and Criminal Behavior. (3). In-depth study of "normal crimes," the analysis of the characteristics of the criminal, the victim, and the setting for specified offenses. The typical demographic and ecological elements of each type of crime with the purpose of providing a framework for analysis and comparison. [2105-1]

7150. Internship in Criminal Justice (3-6). Experience in a criminal justice setting through assignment to an enforcement, judicial, or correctional agency under joint supervision of agency officials and university faculty. *PREREQUISITE:* Permission of Coordinator of Graduate Studies in Criminal Justice. [2105-5]

7160. Seminar in Criminal Justice Administration. (3). Organizational theory and practice as applied to the administration of the various components of the criminal justice system. Depending on student needs, the course will apply administrative theory to the police, courts, or corrections, or to a general overview of management problems in the criminal justice system. May be repeated for a maximum of six hours. [2105-1]

7190. Special Topics in Criminal Justice. (3). The course is intended to provide students with a systematic and comprehensive examination of important and timely issues and development in the field of criminal justice. May be repeated for a maximum of six hours. [2105-1]

7427. Institutional Treatment of Offenders. (3). Critical analysis of methods employed by correctional institutions to prepare inmates for reintegration into their environment upon release. Development of a frame of reference for rational treatment of offenders through description, examination, and practice of treatment methods. [2105-1]

7510. Law and Society. (3). Examination of law as a system of control and as a mechanism for the resolution of conflict. Relationship of law to political, economic, and social systems critically analyzed; the development of the legal profession. [2105-1]

7523. The Concept of Criminal Law. (3). Social foundation and principles on which our system of criminal law is based. [2105-1]

†7996. Thesis (1-6). [2105-6]

†Grades of S, U, or IP will be given.

biosynthesis, stereochemistry, carbohydrates, new synthesis methods, high polymers, and advanced physical-organic chemistry. May be repeated for a maximum of 12 hours. *PREREQUISITE:* Permission of instructor. [1907-1]

0. Special Topics in Physical Chemistry. (1-3). Lectures and conferences covering selected areas of current interest (including non-aqueous solutions, surface chemistry, x-ray crystallography, theoretical spectroscopy, nuclear chemistry, molecular structure of macromolecules, colloid chemistry, statistical thermodynamics, esr, and nmr). May be repeated for a maximum of 12 hours. *PREREQUISITE:* Permission of instructor. [1908-1]

0. Special Topics in Biochemistry. (1-3). Lectures and conferences covering selected areas of current interest (including molecular biology, protein and nucleic acid chemistry, physical chemistry of biochemical macromolecules, lipid, carbohydrate, and acid metabolism, biochemical energetics, and metabolic control). May be repeated for a maximum of 12 hours. *PREREQUISITE:* Permission of instructor. [0414-1]

0. Doctoral Research and Dissertation. (1-10). An original investigation undertaken with the supervision of a member of graduate staff to be the basis of a doctoral dissertation and contribution to the chemical literature. (Maximum amount of semester credits is 30). [1905-7]

PHYSICAL SCIENCE (PSCI)

the collateral area, 9 or 12 semester hours in courses approved by the Chairman of the department and the student's professor.

Glass Manipulation. (2). A laboratory course in the fundamentals of glass manipulation and the construction and use of simple laboratory apparatus. Six laboratory hours per week. [1905-1]

Grades of S, U, or IP will be given.

CRIMINAL JUSTICE

PROFESSOR JOSEPH A. CANALE
Chairman

Room 405, Mitchell Hall

DR. JERRY SPARGER, *Coordinator of Graduate Studies*

The Department of Criminal Justice offers the Master of Arts degree with a major in Criminal Justice. The program is designed to provide a wide range of individual specialization with a curriculum specifically tailored to each student's undergraduate preparation, work experience, and career objectives. Coursework emphasizes the institutions and the processes of the criminal justice system, with a scientific approach to the analysis of crime in criminal justice. It stresses a broad understanding of social behavioral sciences, a comprehension of the general issues important to criminal justice and the development of methodological tools and skills for research and program administration in criminal justice. The program is based on an interdisciplinary approach, linking the criminal justice system with academic disciplines, to develop in students an awareness of other theoretical perspectives and bodies of knowledge.

A. Degree Program

Program Admission

Admission to the program is competitive. To be considered for admission, the applicant must meet the following minimum requirements:

1. A baccalaureate degree from an accredited college or university.

2. A minimum grade point average of at least 2.5 (4-point scale) in all undergraduate course work.

3. A minimum of 15 semester hours in Criminal Justice courses, in addition to 3 hours in statistics. Students lacking one or all of these prerequisite courses, but presenting an exceptional undergraduate record, may be granted graduate admission as regular or special students. Students will be expected to remove all undergraduate deficiencies during their academic year.

4. A minimum score of 800 on the aptitude section of the Graduate Record Examination.

5. Written letters of recommendation from persons qualified to assess the applicant's academic background, aptitude for graduate study, and personal qualities.

6. A statement of approximately 500 words indicating the applicant's background, interests, and career goals.

7. An interview may be required for admission.

Program Requirements

A total of 30 semester hours of graduate work including completion and defense of a thesis, or 36 semester hours of graduate work without a thesis.

Disjunctory completion of the following core curriculum:

CJUS 7100. The Criminal Justice System
CJUS 7130. Crime Analysis and Criminal Behavior
CJUS 7128. Research Methods in Criminal Justice
CJUS 7523. The Concept of Criminal Law

A minimum of 18 semester hours of coursework in Criminal Justice, including the core courses.

A minimum of 9 semester hours of coursework outside the Department of Criminal Justice, to be approved by the student's committee. For students who have an undergraduate degree in Criminal Justice, coursework outside the Department of Criminal Justice may be increased up to 18 semester hours.

7002. Topics in Written Composition. (3-6). Readings, lectures and exercises in the theory of written composition, with emphasis on the teaching and learning of writing, and on the development of writing programs. This course, open only to teachers, cannot count toward a major or collateral area in English. [1507-1]

7003. Applied Theory and Practice in English Composition in College. (3). Designed for graduate assistants teaching English 1101. Emphasis on the ways and techniques of teaching rudiments of English composition on college level. Required of and restricted to graduate teaching assistants. [1501-1]

***7211. Studies in Medieval Literature. (3).** [1502-1]

***7212. Studies in Renaissance Literature. (3).** [1502-1]

***7213. Studies in Seventeenth Century Literature. (3).** [1502-1]

***7214. Studies in Restoration and Eighteenth Century Literature. (3).** [1502-1]

***7221. Studies in the Literature of the Romantic Period. (3).** [1502-1]

***7222. Studies in Victorian Literature. (3).** [1502-1]

***7223. Studies in Contemporary Literature. (3).** [1502-1]

***7231. Studies in Shakespeare. (3).** [1502-1]

***7321. Studies in American Literature before 1860. (3).** [1502-1]

***7322. Studies in American Literature since 1860. (3).** [1502-1]

7511. Introduction to English Linguistic Analysis and Research. (3). An introduction to the nature of language with attention to basic principles of English phonology and morphology with special attention to syntax. Emphasis on collecting and handling of linguistic data for research purposes. [1505-1]

7512. Dialects and Varieties of English. (3). An examination of variations in the English language and the diversity of its uses. Consideration of social, regional, and literary variation in English with some attention to the backgrounds of such variation. **PREREQUISITE:** ENGL 7511 or the equivalent. [1505-1]

***7521. Studies in English Linguistics. (3).** Focuses on the contemporary approaches to phonology, syntax, or semantics, with some discussion of alternative theories. The area to be selected will be announced each term. [1505-1]

***7522. Studies in Applied Linguistics. (3).** Applications of linguistic theory to such matters as the analysis of literature, language acquisition, reading and composition, and the relation between dialects and culture. The area to be selected will be announced each term. [1505-1]

7601. Principles of Written Composition. (3). Readings, lectures, and exercises in theory of written composition with some attention to research methods on the processes of reading and writing acquisition. [1501-1]

7602. Introduction to Research in Written Composition. (3). Principles and methods of research design as applied to the measurement and analysis of linguistic processes (reading and writing) and texts. Use of computers, statistics, and experimental populations in the conduct of research. **PREREQUISITE:** ENGL 7511 or the equivalent. [1501-1]

7701. Literary Criticism. (3). The major documents in Western criticism, from Plato to the present. [1501-1]

7801. Bibliography and Methods of Research. (3). Bibliographical aids for the study of English and American literature, problems involved in various types of research, and study of the presentation and documentation of scholarly writing. [1501-1]

7996. Thesis. (3-6). A prospectus for the thesis must be approved by the student's adviser and the department chairman before the student registers for this course. Formal application for writing a thesis must be filed with the Dean of Graduate Studies at the time of registration. The completed thesis must be approved by at least two readers. [1501-6]

[†]Grades of S, U, or IP will be given.

*Courses designated *Studies* provide for specialized work in the designated area. Content and focus of *Studies* courses may vary from semester to semester. Students will be expected to engage in research leading to the production of substantial papers. Ideally they should have had previous work in the material of these courses. They should, in any case, enroll in *Studies* for which they have had some relevant preparation.

FOREIGN LANGUAGES

PROFESSOR RICHARD B. O'CONNELL,
Chairman

Room 375A Winfield Dunn Building

DR. SHARON HARWOOD, Coordinator of
Graduate Studies

I. The Department of Foreign Languages offers a program leading to the Master of Arts degree in Romance Languages with concentration in either French or Spanish.

II. M.A. Degree Program

A student entering the program will be assigned a major adviser by the chairman, and this adviser is to be consulted in all matters concerning the student's program of study. It is the student's responsibility to obtain from the department office copies of the Information Sheet and the Required Reading List for detailed descriptions of requirements.

A. Program Prerequisites

1. A minimum of 18 upper-division semester hours or its equivalent in French, Spanish or a combination of the two.

2. A reasonable proficiency in the language of concentration, to be determined by the department prior to admission.

B. Program Requirements

1. A total of 30 semester hours for candidates writing a thesis.

2. A total of 33 semester hours for candidates not writing a thesis.

3. A minimum of 6 semester hours in the field of Romance languages and literatures outside the language of concentration. **NOTE:** Linguistics 7101 and/or Linguistics 7201 may be used to satisfy all or part of this requirement.

4. Nine semester hours may be taken in an approved collateral area.

5. At least 18 hours must be taken in 7000 level courses.

6. A reading knowledge of a foreign language other than that of the major. Normally this shall be demonstrated by achieving the forty-fifth percentile on the Graduate School Foreign Language Test (Educational Testing Service) in French, German, Russian, or Spanish. A student may also fulfill this requirement by achieving a grade of "B" or better in any of the following courses or their equivalents with the approval of the coordinator of graduate studies: French 2202, German 2202, Italian 2202, Russian 2202, or Spanish 2202, or Languages 4702-6702, or by demonstrating reading knowledge of a foreign language in a manner approved by the coordinator of graduate studies.

7. In addition to fulfilling the foreign language reading requirement, candidates whose native language is not English must achieve a minimum grade of 500 on the Test of English as a Foreign Language (TOEFL) prior to completion of course work and pass an examination of oral fluency administered by the department.

8. A comprehensive written examination after completion of all course work.

9. If a thesis is presented, an oral examination on the area of the thesis is required.

E210 LANGUAGES (LANG)

6701. Language Study for Reading Knowledge. (3). Introduction to the reading of French, German, Russian, or Spanish. Intensive drill in recognizing and interpreting grammatical structures, especially those peculiar to the scholarly written language. Emphasis both on vocabulary building and on determining the meaning of words not previously encountered. Reading of texts in the target language at sight or after preparation. No previous knowledge of the language required. Credit may not be applied toward the number of hours required for any graduate degree except with the express permission of the student's major department.

001. FRENCH [1102-1]

002. GERMAN [1103-1]

003. RUSSIAN [1106-1]

004. SPANISH [1105-1]

6702. Language Study for Reading Knowledge. (3). Continuation of LANG 6701. Further work in recognizing and interpreting grammatical structures. Reading of specialized scholarly texts. Credit may not be applied toward the number of hours required for any graduate degree except with the express permission of the student's major department.

001. FRENCH [1102-1]

002. GERMAN [1103-1]

003. RUSSIAN [1106-1]

004. SPANISH [1105-1]

E100 LINGUISTICS (LING)

7101. Introduction to Linguistics. (3). Language families and dialects; problems in phonology, morphology, and syntax; structural linguistic theory and practice. Recommended for language teachers. [1505-1]

7201. Romance Philology. (3). An introduction to Vulgar Latin and a study of its development into the modern Romance Languages. [1505-1]

E120 FRENCH (FREN)

See Language courses listed above for an introduction to the reading of French.

6301. French Phonetics. (3). The theory and practice of French sounds; especially recommended for teachers of French. [1102-1]

6305. French Stylistics. (3). Translations of English prose into French with an emphasis on style and grammar. Required of all graduate assistants in French and recommended for all French majors and teachers of French. [1102-1]

6431. The Nineteenth Century French Novel. (3). The French novel from the Revolution to the twentieth century, treating the movements of Romanticism, Realism, and Naturalism as they are reflected in the works of such authors as Balzac, Stendhal, Flaubert, and Zola. [1102-1]

6432. The Twentieth Century French Novel. (3). A general survey of the twentieth century French novelists, including Proust, Gide, Mauriac, Malraux, Sartre, Camus, Robbe-Grillet. [1102-1]

6451. The Nineteenth Century French Drama. (3). French drama from 1800 to 1897, including Hugo, Vigny, Musset, Scribe, Augier, Labiche, Dumas, Crel, Becque, Maeterlinck, and Rostand. [1102-1]

6452. Twentieth Century French Drama. (3). Principal dramatists of the present century, including Claudel, Giraudoux, Sartre, Camus, Anouilh, Montherlant, Beckett, Ionesco, and others. [1102-1]

6471. Nineteenth Century French Poetry. (3). French poetry from Lamartine to Mallarmé. [1102-1]

6501. Applied French Linguistics. (3). The application of modern linguistic theories to learning French. [1102-1]

7401. Old French Language and Literature. (3). Development of the French language from Latin to the early 13th Century. Readings include *La Chanson de Roland* and selections from the romans courtois of Chretien de Troyes, the *Lais* of Marie de France, *le Roman de la Rose*, *Aucassin et Nicolette*, and *le Ro-*

man de Renart. History of the liturgical and comic theatre. Lyric poetry of Charles d'Orleans and François Villon. [1102-1]

7421. The French Renaissance. (3). Changes in aesthetics, ethics, and philosophy as seen in the writings of l'Ecole Lyonnaise, the Pléiade, Rabelais, Montaigne, Calvin, Marguerite Navarre, Etienne Jodelle, and Robert Garnier. [1102-1]

7425. Classicism Prior to 1660. (3). Aesthetics and poetics of the baroque and preclassical periods. Selections from the works of the précieux and baroque poets, Mallet, Rotrou, Sain Sorlin, Scarron, Sorel, Cyrano de Bergerac. The Theatre Corneille; early comedies of Moliere. [1102-1]

7426. Classicism After 1660. (3). The impact of Boileau's *l'Art poetique* in crystallizing classical principles and patter Masterpieces of Moliere and Racine. Representative selection from masters of the other genres in this period of French literature. [1102-1]

7491. Seminar in French Literature. (3). Introduction to search through investigations of limited scope. May be repeated for credit. [1102-1]

7492. Research in French Studies. (1-6). May be repeated credit toward the concentration in French up to a maximum six hours. [1102-8]

7531. The Age of the Enlightenment. (3). Comprehensive study of literary trends and innovations within the major genre as related to liberal ideas underlying the philosophy of Montaigne, Voltaire, Diderot, Rousseau, and their contemporaries. [1102-1]

7691. Bibliography and Methods of Research. (1). Examination of bibliographical aids for the study of French literature; problems involved in various types of research; and study of the presentation and documentation of scholarly writing. **Required of all graduate students.** [1102-1]

7791. The Teaching of French. (1). Required of all graduate assistants in French. Credit for this course cannot be applied toward the M.A. in Romance Languages with a concentration in French. [1102-1]

7996. Thesis. (1-6). The thesis in French carries six semester hours and must be approved by the candidate's thesis committee. [1102-6]

E130 GERMAN (GERM)

See Language courses listed above for an introduction to reading of German.

6443. Major German Writers of the Twentieth Century. (3). Selected works of Hesse, Thomas Mann, Kafka, Frisch, Dürrenmatt, Brecht, and Böll. **PREREQUISITES:** Two courses from the group GERM 3301, 3410, 3411, 3412; or permission of the instructor. [1103-1]

6445. The Age of Goethe. (3). The development of German Classicism. Reading of major works of Goethe and Schiller. Selected readings from other important writers of the period. **PREREQUISITES:** Two courses from the group GERM 33 3411, 3412, or permission of the instructor. [1103-1]

6451. The German Drama. (3). Dramatic literature from the nineteenth to the twentieth centuries, with readings from the Romantic, the Baroque, Enlightenment, Sturm und Drang, Classicism, Romanticism, Realism, and the modern period. **PREREQUISITES:** Two courses from the group GERM 33 3411, 3412, or permission of the instructor. [1103-1]

E190 RUSSIAN (RUSS)

See language courses listed above for an introduction to reading of Russian.

E200 SPANISH (SPAN)

See Language courses listed above for an introduction to reading of Spanish.

6301. Spanish Phonetics. (3). The sounds and intonation patterns of Spanish; analysis and practice; comparison with sounds and intonation patterns of English. Especially recommended for teachers of Spanish. [1105-1]

6302. Advanced Grammar. (3). A thorough and systematic presentation of Spanish grammar with an emphasis on teaching. Required of all graduate assistants in Spanish and recommended for all Spanish majors. [1105-1]

6391. Topics in Spanish Language. (3). Selected problems in Spanish and Spanish American dialectology and usage; topics of current concern in Spanish linguistics; individual or group projects involving field techniques. May be repeated for a maximum of six semester hours credit, provided the same topic not repeated. [1105-1]

6421. The Golden Age. (3). Spanish lyric poetry and drama of the sixteenth and seventeenth centuries. [1105-1]

6423. Cervantes. (3). *Don Quixote* and the *Novelas ejemplares*. [1105-1]

6431. Contemporary Spanish Prose. (3). Spanish prose from the Generation of 1898 to present. [1105-1]

6432. Contemporary Spanish Poetry and Drama. (3). Spanish poetry and drama from the Generation of 1898 to the present. [1105-1]

6501. Applied Spanish Linguistics. (3). The application of modern linguistic theories to the learning and teaching of Spanish recommended for teachers. [1105-1]

6532. Spanish American Drama. (3). Development of the drama in Spanish America, with an emphasis on the twentieth century. **PREREQUISITES:** SPAN 3411-3412 or one of SPAN 3511-SPAN 3512. [1105-1]

6561. Spanish American Prose Fiction I. (3). Development of the Spanish American novel and short story from their beginnings through the Mexican Revolution. [1105-1]

6562. Spanish American Prose Fiction II. (3). The Spanish American novel and short story from the Mexican Revolution to the present. [1105-1]

1. **Special Studies in Hispanic Literature.** (3). Selected topics in Hispanic Literature. May be repeated for a maximum of 6 credit hours. [1105-1]
2. **Old Spanish Language and Literature.** (3). An introduction to the general characteristics of medieval Spanish dialects and a study of medieval Spanish texts. [1105-1]
3. **The Picaresque Novel.** (3). *Lazarillo de Tormes*, *Guzmán de Arce*, and other novels of the genre in the seventeenth century. [1105-1]
4. **Nineteenth Century Spanish Literature I.** (3). Romanticism and drama studies in the works of such writers as the Marquis of Rivas, Espronceda and José Zorrilla. Post-romanticism and drama. Becquer: *Costumbrismo*. The romantic and the novel. [1105-1]
5. **Nineteenth Century Spanish Literature II.** (3). The realistic novel, the realistic novel and the naturalistic novel are treated in the works of such writers as Fernán Caballero, Valera, Pereda, Palacio Valdés, Galdós, and Blasco Ibáñez. The poetry of Campaño and Núñez de Arce. The theatre. Orators and historians. [1105-1]
6. **Seminar in Spanish Literature.** (3). Introduction to research through investigations of limited scope. May be repeated for credit. [1105-1]
7. **Research in Hispanic Studies.** (1-6). May be repeated for credit toward the concentration in Spanish up to a maximum of 6 credit hours. [1105-8]
8. **The Teaching of Spanish.** (1). Required of all graduate students in Spanish. Credit for this course cannot be applied toward the M.A. in Romance Languages with a concentration in Spanish. [1105-1]
9. **Thesis.** (1-6). The thesis in Spanish carries six semester hours and must be approved by the candidate's thesis committee. [1105-6]

Grades of S, U, or IP will be given.

GEOGRAPHY

PROFESSOR W. THEODORE MEALOR, JR.,
Chairman and Coordinator of Graduate Studies
Room 111 Johnson Hall

The Department of Geography offers graduate programs leading to the Master of Arts and the Master of Science degrees.

M.A. and M.S. Degree Programs

Program Admission
Application to the Graduate School and the approval of the departmental chairman and the departmental graduate faculty.

Program Requirements (M.A. and M.S.)
Satisfactory completion of GEOG 7801 and GEOG 6501 or its equivalent.

Completion of either Option I or Option II
Option I: minimum of 24 semester hours and a six hour thesis.

Option II: minimum of 33 semester hours and two term papers of professional quality and acceptable format.

The Graduate course (6000 or 7000 level) from each of the areas:

Environmental and earth sciences
Human-economic geography

Geographic techniques (those students taking GEOG 6501 will be allowed to substitute an undergraduate techniques course)

Each student should submit a degree program plan to the graduate faculty after completion of 12 semester hours of graduate work.

In consultation with the adviser, each student should select a thesis committee by the completion of 18 semester hours of graduate course work.

Proposal(s) for thesis and term papers should be submitted to the adviser by completion of 18 hours of graduate course work.

Successful completion of a comprehensive examination; not taken prior to the registration for the 24th semester credit hour. A separate defense of the thesis is required for those students electing Option I.

M.S. degree will be awarded only to those students submitting a minimum of nine semester hours from the environmental and earth sciences core.

E220 GEOGRAPHY (GEOG)

1. **Earth Science I. The Atmosphere.** (3). An analytical study of the physical processes underlying the behavior and response of the atmosphere and the application of this general body of knowledge to an understanding of the relationship of man to the environment. [1917-1]

2. **Earth Science II. The Earth.** (3). An analytical study of the earth's forms, their changes and their uses to man. [1917-1]

3. **Earth Science III. The Soil.** (3). An analytical study of the soil to include their physical, chemical, and biological qualities and their classes, uses, and measures of conservation. [1917-1]

4. **Earth Science IV. The Oceans.** (3). An analytical study of the oceans to include their physical, chemical, and biological characteristics; their movements, resources, climate influences, and importance for transportation. [1917-1]

5. **Urbanization and Environment.** (3). A study of the ways man has changed the natural environment by urbanization and how physical features and processes influence the development and function of cities. [0115-1]

6. **Climatology.** (3). A systematic/regional study of climate. Emphasis is given to the (1) controlling factors in climate, (2) problems in the classification of climatic types, (3) world distributional patterns, and (4) methods of handling climatic data. [2206-1]

7. **Geography of Water Resources.** (3). Study of hydrologic processes and their application to needs of cities, industry, agriculture, and recreation. [2206-1]

8. **Environmental Threats to Human Survival.** (3). A survey of environmental threats, some of which may threaten the very survival of the human species. The spectrum of threats ranges from planet-wide climatic changes and potential changes in earth-sun relationships to more immediate threats such as inadequate food production, local disasters, and nuclear contamination. [2206-1]

9. **Geography of Europe.** (3). A geographic analysis of the lands west of the Iron Curtain. [2206-1]

10. **Geography of the USSR.** (3). A regional analysis of the Soviet Union and its satellites. [2206-1]

11. **Geography of Asia.** (3). A consideration of the significance of regional differences in Japan, China, and India, and a brief survey of the remaining areas. [2206-1]

12. **Geography of the United States and Canada.** (3). A study of the physical, cultural, and economic characteristics of the United States and Canada. [2206-1]

13. **Geography of the South.** (3). A study of selected regions in the South with emphasis on changes and trends in the cultural-physical complex. [2206-1]

14. **Geography of Middle America.** (3). A study of the regions and resources of Mexico, Central America, and the West Indies as they relate to present and potential economic development. [2206-1]

15. **Geography of South America.** (3). An analysis of the regional economics, resources, and trade in the continent, with stress upon the changing significance of the landscape as related to national and international problems. [2206-1]

16. **Political Geography.** (3). An introduction to the study of the spatial distribution, characteristics, and interaction of political processes and systems. Individual student study of selected problems will be required. [2206-1]

17. **Urban Geography.** (3). A study of the allocation of land for urban uses; the adjustments and adaptations to existing physical phenomena; the patterns, functions, and forms of specific urban land areas; and some of the continuous problems of urban development and growth. [2206-1]

18. **Land Utilization and Settlement.** (3). Study of the characteristic ways that man utilizes land. Emphasis is upon the effect of urban growth on settlements and land-holding patterns in rural areas. [2206-1]

19. **Geography of Business and Industrial Location.** (3). The study of the geography of retailing, wholesaling, and manufacturing, with emphasis on the locational analysis of selected business enterprises. [2206-1]

20. **Transportation Geography.** (3). Study of the various transportation modes and networks and the impact that they have on land-use and contemporary development problems. [2206-1]

21. **Geography of Food and Agriculture.** (3). An analysis of the ability of the earth-surface areas to produce the food necessary to sustain a rapidly growing world population. Included is a study of the environmental constraints which tend to limit food production and produce food supply crises. [2206-1]

22. **Map Design and Production.** (3). The planning and production of maps to present information about the earth's surface and patterns. [1999-1]

23. **Computer Mapping.** (3). Instruction in the use of computer mapping programs as effective techniques for the visual presentation of a wide variety of data. [1999-1]

24. **Aerial Photo Interpretation.** (3). Systematic treatment of the elements and steps involved in interpreting, measuring, and mapping of images appearing on aerial photographs. [2206-1]

25. **Remote Sensing of the Environment.** (3). Survey of the theory and application of using color infrared, thermal, and radar images generated from aircraft and satellites for geographic, environmental, and planning purposes. [2206-1]

26. **Quantitative Methods.** (3). An introduction to quantitative methods in geographic analysis. PREREQUISITE: Permission of instructor. [0701-1]

27. **Urban Field Methods.** (3). The study and use of geographic field techniques in reconnaissance and analysis of urban areas. [2206-1]

28. **Geography Internship.** (1-9). Provides the student with the opportunity to gain experience by working with an agency in which his geographic knowledge can be utilized. Repeatable to a maximum of 9 hours. [2206-5]

29. **Seminar in Physical Geography.** (3). Systematically treats a variety of topics in physical geography. Subjects vary and include, but are not limited to those listed below. Specific topics will be listed in the *Schedule of Classes*. May be repeated with change in content for a maximum of 9 hours credit. [2206-1]

- 001. CLIMATOLOGY
- 002. MICROCLIMATOLOGY
- 003. METEOROLOGY
- 004. GEOMORPHOLOGY
- 005. HYDROLOGY
- 006. OCEANS

30. **Landform Regions of the U.S. and Canada.** (3). A survey of the natural regions of the United States, relating landform configurations to settlement patterns, resource distribution, and recreational facilities. [2206-1]

31. **Seminar in Environmental Management.** (3). Environmental issues pertinent to a quality life are treated systematically within the spatial framework. Subjects vary and include,

but are not limited to those listed below. Specific topics will be listed in *Schedule of Classes*. May be repeated with content change for a total of six hours. [2206-1]

- 001. CONSERVATION
- 002. FOREST RESOURCES
- 003. LAND USE
- 004. WATER RESOURCES
- 005. HAZARD PERCEPTION

32. **Seminar in Regional Geography.** (3). (7601). Regional analysis of selected areas of the world including the U.S. South, the U.S. and Canada, Europe, Soviet Union, Middle America, South America, Asia, Africa, and Oceania. Specific topics will be listed in the *Schedule of Classes*. May be repeated with change in content for maximum of 6 hours. [2206-1]

- 001. U.S. SOUTH
- 002. U.S. AND CANADA
- 003. EUROPE
- 004. USSR
- 005. MEXICO
- 006. MIDDLE AMERICA
- 007. BRAZIL
- 008. SOUTH AMERICA
- 009. ASIA
- 010. AFRICA
- 011. OCEANIA
- 012. PROBLEMS OF REGIONALIZATION

33. **Seminar in Behavioral Geography.** (3). Selected issues in the geography of human behavior as illustrated by a review of the literature, followed by student research on appropriate problems. [2206-1]

34. **Seminar in Economic Geography.** (3). Selected topics in economic geography. Subjects studied will vary and will include, but are not limited to those listed below. Specific topics will be listed in the *Schedule of Classes*. May be repeated with change in content for maximum of 9 hours credit. [2206-1]

- 001. THEORY AND METHODS
- 002. AGRICULTURE
- 003. INDUSTRIAL LOCATION
- 004. MARKETING
- 005. TRANSPORTATION

35. **Seminar in Urban Geography.** (3). (7436). A study of the spatial aspects of urban development and the analysis of selected urban problems. [2206-1]

36. **Population Geography.** (3). A survey of the density, distribution, migrations, trends, and settlement patterns of world population. [2206-1]

37. **Cultural Geography.** (3). A systematic analysis of the manner in which selected culture traits interact with other patterned phenomena to produce distinctive geographic landscapes. Individual student study on selected problems is an integral part of this course. [2206-1]

38. **Seminar in Geographic Techniques.** (3). Emphasis is placed upon the application of several geographic techniques in solving real world problems. Topics will vary and include, but are not limited to those listed below. Specific topics will be listed in the *Schedule of Classes*. May be repeated with change of content for maximum of 6 hours credit. [2206-1]

- 001. CARTOGRAPHY
- 002. COMPUTER APPLICATIONS IN GEOGRAPHY
- 003. QUANTITATIVE METHODS
- 004. AERIAL PHOTOGRAPHY INTERPRETATION
- 005. REMOTE SENSING
- 006. FIELD TECHNIQUES

39. **Advanced Cartography.** (3). A study of the ways by which data are presented and interpreted through maps, charts, graphs, and tables. [1991-1]

40. **Special Problems.** (1-3). Independent investigation of a research problem selected in consultation with the instructor. May be repeated for a maximum of 6 credit hours. [2206-8]

41. **Development of Geographic Thought.** (3). (7461). A course vital in acquainting the serious minded geography student with the various types and sources of geographic literature, its nature and content, and the growth and development of geographic thought. [2206-1]

42. **Thesis.** (3-6). A student registering for this course must have demonstrated, to two or more members of the geography staff, superior ability in the field of geographic content and in the organization and presentation of subject matter. Application for writing a thesis must be filled out on an approved form after consultation with the major professor and filed with the Dean of Graduate Studies at the time of registration. PREREQUISITE: Approval of supervising teacher and department chairman. [2206-6]

†Grades of S, U, or IP will be given.

HISTORY

PROFESSOR AARON M. BOOM
Chairman

Room 100 Mitchell Hall

DR. C. EDWARD SKEEN, *Coordinator of Graduate Studies*

I. The Department of History offers programs of study leading to the Master of Arts degree and the Doctor of Philosophy degree with a major in History.

II. M.A. Degree Program

The M.A. program of study in history is a flexible one which prepares students for a variety of careers. Students who regard the M.A. as a terminal degree normally elect to fulfill its requirements by 33 hours of course enrollment without writing a thesis.

sis. Most of these students go on to teaching positions on the secondary and community college level; a lesser number enter government service at all levels; and some secure specialized positions in business, industry, and journalism. Those students preparing for teaching on the university level or related careers in research and writing should look upon the M.A. program as preparation for advanced graduate study. They are thus strongly urged to fulfill the requirements of the M.A. program by the preparation of a thesis.

A. Program Prerequisites

The student is required to have a minimum of 18 semester hours in undergraduate history. In special cases an exception may be made with the approval of the Graduate School and the Graduate Adviser in History.

B. Program Requirements

1. A total of 33 hours for the student who elects not to write a thesis.

2. A total of 30 hours for the student who elects to write a thesis, with 6 hours of credit being assigned to the thesis.

3. No more than 21 hours may be taken in any one field of history (United States, Europe, Latin America).

4. A minimum of 18 hours of 7000 level courses, of which at least 15 hours must be in history.

5. A maximum of 6 hours may be taken in a field outside history, with the approval of the Graduate Adviser.

6. History 7000 must be completed by each student. All students who do not write an M.A. thesis are required to enroll for one of the 7070 seminars.

7. A comprehensive examination over course work given by a committee chosen by the Graduate Adviser and the student.

8. Thesis approval by a department committee headed by the faculty member who directed the preparation of the thesis.

III. Ph.D. Degree Program

The Department of History also offers a program of study leading to the Ph.D. degree. The program is designed to assure a broad knowledge in two fields, more specialized and in-depth knowledge in the major field, and professional competence in original research and writing. A minimum of three academic years beyond the B.A. degree is normally needed to complete the program.

A. Program Admission

Formal permission for the student to enter the program will be granted by the Graduate Studies Committee. The student is encouraged to apply by the time he has completed 12 hours of course work beyond the M.A. degree or its equivalent. The student must:

1. Possess a grade point of 2.8 (on a 4.00 scale) for the last 60 hours of undergraduate work and a 3.00 in all history courses and previous graduate work.

2. Make satisfactory scores on the General Aptitude and History parts of the Graduate Record Examination.

3. Pass a Qualifying Examination given in the Department of History over his/her past work in history. In special cases, the Qualifying Examination may be waived with the unanimous concurrence of the Graduate Studies Committee.

B. Program Requirements

1. *Language.* The candidate must demonstrate a reading proficiency in one foreign language appropriate to his field of study and approved by the candidate's committee. To demonstrate proficiency, the candidate must score at the minimum of the 35th percentile on the appropriate Graduate Student Foreign Language Test. An acceptable score on the test taken at another institution will be accepted as satisfying the requirement. If there is no Graduate Student Foreign Language Test for a particular language, the major professor will determine the means for demonstrating reading proficiency. If a student should fail the language examination twice, he must have approval of his major professor to take it again.

2. *Fields of Study.* The student will choose one major field (Europe after 1789 or United States) and two minor fields (Ancient, Medieval/Renaissance, Early Modern Europe, Europe after 1789, Britain, United States, Latin America, Russian, Asian, African).

3. *Course requirements.* The student must enroll for 60 hours of course work beyond the B.A. degree with approximately 30 hours in his major field and approximately 15 hours in each of his two minor fields. Among these courses the student must take History 7000-8000, History 7011-8011, and 12 hours of History 7070-8070 research seminars. Of the total course work requirement, a minimum of 30 semester hours must be earned while the student is at Memphis State University.

4. *Comprehensive examination.* The student will take a two-day written examination over the work in his major field and a one-day examination over the work in each of his two minor fields. The student will be permitted to retake any part of the examination failed. At its option the examining committee may schedule a follow-up oral examination.

5. *Dissertation.* Defense of the dissertation, prepared under the direction of a faculty member in the student's major field, will be by oral examination, and formal approval of it will be made by a majority vote of the examining committee.

C. Program Advising

When the student first enrolls for course work in the History Department, he will consult with a departmental adviser. After he has been formally admitted into the Ph.D. program, a Permanent Advisory Committee will be established to supervise the remainder of his work.

E240 HISTORY (HIST)

6010. Topics In History. (3). Intensive study of selected topics in history. The topics will be announced in the *Schedule of Classes*. [2205-1]

6020. Internship In History. (3-12). Supervised internships working with various governmental agencies, private foundations or businesses of interest to historians. May be repeated for a maximum of 12 hours credit. PREREQUISITE: Permission of department. [2205-5]

6126. Victorian England, 1840-1900. (3). Readings and discussion on selected topics such as the development of English liberal thought, Victorian society and values, and imperialism. [2205-1]

6145. History of Modern Germany. (3). Germany from the origins of the unification movement in the Napoleonic Era through the Second World War. [2205-1]

6160. History of Russia to 1801. (3). Political, economic, social and cultural development of Russia from early times to the beginning of the nineteenth century. [2205-1]

6161. History of Russia from 1801 to 1917. (3). Political, economic, cultural, and intellectual development of the Russian Empire from the reign of Alexander I to the Bolshevik Revolution of 1917. [2205-1]

6162. History of the Soviet Union. (3). The 1917 Revolution and the major developments in government, economy, cultural and social life, and international affairs which followed. [2205-1]

6163. History of Socialism and Marxism. (3). Socialist and Marxist thought and the rise of socialist and Marxist social and political movements in Europe, Russia, and the Far East. The unique social, economic, and political conditions which gave rise to the experimentation with and the application of Marxism. [2205-1]

6240. History of Mexico. (3). Political, economic, social, and cultural development of Mexico from ancient times to the present. [2205-1]

6250. History of Brazil. (3). Political, economic, social, and cultural development of Brazil from early times to the present. [2205-1]

6281. Africa South of the Sahara. (3). Major emphasis on black Africa in the nineteenth and twentieth centuries. The age of Imperialism and the impact of the West on Africa; the colonial policies of the European powers; the rise of the nationalist movements; the problems of newly independent nations; the role of African countries in world affairs. [2205-1]

6282. The History of North Africa. (3). Major emphasis on the nineteenth and twentieth centuries. The extension of European influence and control; the rise of nationalist movements; the role of these areas in world affairs. [2205-1]

6283. The History of Southern Africa. (3). The course of European colonization and its impact on the African people from 1652 to date in the Republic of South Africa, Rhodesia, and the former High Commission territories. [2205-1]

6284. European Imperialism in Africa. (3). Readings and discussion of selected case histories of European annexations of African territory, largely in the period 1870-1900. The partition of Africa is studied against the background of great power politics. [2205-1]

6292. History of Modern China, 1800 to the Present. (3). [2205-1]

6294. History of Modern Japan, 1800 to the Present. (3). [2205-1]

6295. Intellectual History of East Asia since 1800. (3). A study of the evolution of modern Chinese and Japanese thought. [2205-1]

6321. History of Ancient Civilization I. (3). Ancient Near East and Greece through the time of Alexander the Great. [2205-1]

6322. History of Ancient Civilization II. (3). Hellenistic World and of the rise and fall of the Roman Empire. [2205-1]

6361. History of the Byzantine Empire. (3). A history of the Byzantine or East Roman Empire from 330 to 1453 and its influence on the Slavic, Turkic, and Islamic peoples. [2205-1]

6371. Early Middle Ages. (3). Late Roman Empire, the migration period, the emergence of Islamic, Byzantine, and West European cultures through the period of the Investiture Controversy. [2205-1]

6372. High Middle Ages. (3). Urban emergence, the growth of feudal monarchy, the foundations of modern political institutions, the medieval universities, and the intellectual fabric of scholasticism. [2205-1]

6380. Renaissance Europe, 1300-1520. (3). Transition from medieval to early modern institutions in Europe with emphasis on urban growth, capitalism, emergent nationalism, international diplomacy, and humanism. [2205-1]

6390. Europe in the Age of the Reformation. (3). Characteristic political, social, economic, intellectual, and cultural developments and the religious conflicts of the late fifteenth and sixteenth centuries. [2205-1]

6401. Europe in the Age of the Baroque. (3). Political crises, the development of monarchical absolutism, the rise of modern science, and the cultural synthesis in the seventeenth century. [2205-1]

6402. The Age of Enlightenment. (3). Intellectual, cultural, social, and political developments in eighteenth-century Europe. [2205-1]

6440. The Era of the French Revolution. (3). Origins and course of the French Revolution in the context of the revolutionary and counter-revolutionary movements in the Atlantic world. [2205-1]

6451. Europe, 1815-1870. (3). [2205-1]

6452. Europe, 1870-1914. (3). [2205-1]

6461. Europe, 1914-1939. (3). [2205-1]

6462. Europe, 1939-present. (3). [2205-1]

6503. Disease, Medicine, and History. (3). How various diseases, and the medical attempts to conquer them have influenced economic, political, and social action throughout history. Particular emphasis to significant work in the history of public health and to speculation about the importance of environmental factors in man's future. [2205-1]

6620. Colonial America, 1607-1763. (3). Primarily the political development and institutions of the English Colonies in America before 1763, with some attention given to Spanish, French, and Dutch colonization. [2205-1]

6630. Era of the American Revolution, 1763-1790. (3). Origins and conduct of the American Revolution, the United States under the Articles of Confederation, and the writing and ratification of the Constitution. [2205-1]

6641. The Early American Republic, 1790-1825. (3). American history from unification until 1825. [2205-1]

6642. The Jacksonian Period, 1825-1850. (3). American history from 1825 to 1850. [2205-1]

6660. Civil War, 1850-1865. (3). Division and conflict. [2205-1]

6670. Reconstruction, 1865-1877. (3). America attempting to remake itself. [2205-1]

6680. Emergence of Modern America, 1877-1914. (3). United States from the end of Reconstruction to the outbreak of World War I. [2205-1]

6701. The United States, 1914 to the Second World War. United States from the outbreak of World War I. [2205-1]

6702. The United States, from the Second World War. [2205-1]

6823. American Labor History. (3). Historical development of the labor movement in the United States. Emphasis on social, economic, and political trends related to the labor movement. [2205-1]

6824. Business History. (3). Historical development of business in the United States. Attention to social, economic, and political trends related to American business communities. [2205-1]

6851. History of Women in America. (3). Economic, political, social, and intellectual history of women in the English American colonies and the United States. [2205-1]

6881. Black American History. (3). Role of Blacks in American history from Jamestown to the present. [2205-1]

6941. History of the American Indian. (3). Role of the Indian in American History. [2205-1]

7000-8000. Introduction to Historical Research and Writing. (3). Mechanical techniques of historical composition, the nature and use of various kinds of historical source material, biographical aids, and methods of historical synthesis required of all history majors. [2205-1]

7011-8011. History and Philosophy of History. (3). History of historical writing, the speculative philosophies of history, and the problems involved in the critical philosophy of history. [2205-1]

7012-8012. Directed Readings. (3). Arranged on an individual basis. Master's candidates may take the course for 3 hours credit. May be repeated for a total of 6 hours credit by students admitted to doctoral program. [2205-8]

7070-8070. Research Seminars. (1-3). Emphasis on original research and writing in topics drawn from the fields generally covered by the Studies courses. May be repeated for credit without departmental approval. PREREQUISITE: HIST 7000. [2205-1]

The following Studies courses consist of readings and research to survey the important literature on the period. [2205-1]

7121-8121. Studies in Tudor England. (3).

7122-8122. Studies in Stuart England. (3).

7123-8123. Studies in English History, 1714-1867. (3).

7124-8124. Studies in English History Since 1867. (3).

7211-8211. Studies in Colonial Spanish America. (3).

7212-8212. Studies in the National Period of Latin America. (3).

7320-8320. Studies in Ancient History. (3).

7376-8376. Studies in the Middle Ages. (3).

7380-8380. Studies in the Renaissance. (3).

7390-8390. Studies in Sixteenth Century Europe. (3).

7401-8401. Studies in Seventeenth Century Europe. (3).

7402-8402. Studies in Eighteenth Century Europe. (3).

7405-8405. Studies in Nineteenth Century Europe. (3).

7406-8406. Studies in Twentieth Century Europe. (3).

7521-8521. Studies in European Diplomacy, 1848-1919. (3).

7630-8630. Studies in Early American History (to 1800). (3).

7640-8640. Studies in United States History, 1800-1865. (3).

7680-8680. Studies in United States History, 1865-1917. (3).

7700-8700. Studies in United States History, 1917-1950. (3).

7871-8871. Studies in United States Urban History. (3).

7875-8875. Studies in United States Diplomatic History. (3).

7920-8920. Studies in Southern History. (3).

7940-8940. Studies in the American West. (3).

7960-8960. Studies in State and Local History. (3).

†7996. Thesis. (1-6). The student must write and defend a thesis on a subject approved by his major professor. [2205-6]

†9000. Doctoral Dissertation. (1-12). No more than 12 hours may be applied toward degree. PREREQUISITE: Admission to candidacy. [2205-7]

†Grades of S, U, or IP will be given.

MATHEMATICAL SCIENCESPROFESSOR STANLEY P. FRANKLIN,
Chairman

Room 373 Winfield Dunn Building

DR. RICHARD J. FLEMING, *Coordinator of
Graduate Studies*

The Department of Mathematical Sciences offers Graduate programs leading to the Master of Science and Doctor of Philosophy degrees with a major in Mathematics.

Areas of concentration within the M.S. degree are offered in Computer Science, Mathematics and Statistics. For the Master Science degree a student may complete both a major and a lateral area, approved by his advisor, in any department in which he is qualified to do graduate work.

Areas of concentration for the Doctor of Philosophy degree are College Teaching of Mathematics and Applied Statistics.

A student who wishes to take a course without having had all of the prerequisites must obtain the permission of the course instructor and the Coordinator of Graduate Studies.

M.S. Degree Program (Area of Concentration — Mathematics)

Program Admission

Score of 27 on MAT or 800 on GRE (Verbal and Quantitative)

Two letters of recommendation

Score of 550 on TOEFL test for foreign students

Program Prerequisites

An undergraduate degree with a major in mathematics equivalent to the Undergraduate major at Memphis State and 2.5 GPA

Program Requirements

Satisfactory completion of 33 semester hours of course work in a program approved by the Department of Mathematical Sciences.

For the M.S. degree in mathematics, satisfactory completion of at least twenty-one (21) semester hours of course work in mathematics (an approved list of courses is available from the department.) A knowledge of material contained in and generally at the level of the following courses is considered to be sufficient:

MATH 6241 Linear Algebra

MATH 6261 Abstract Algebra

MATH 6351 Real Analysis

MATH 6361 Complex Variables

MATH 6411 Topology

At least 18 semester hours of 7000 level courses

Must pass an oral comprehensive examination

M. S. Degree Program (Area of Concentration — Computer Science)

Program Admission

Score of 27 on MAT or 800 on GRE (Verbal and Quantitative)

Two letters of recommendation

Score of 550 on TOEFL test for foreign students

Program Prerequisites

An undergraduate degree with 2.5 GPA

One year (8 semester hours) of calculus and one semester (3 semester hours) of computer programming. (A student without a calculus and/or computer programming can be admitted on a provisional basis.)

Program Requirements

Satisfactory completion of 33 semester hours of course work in a program approved by the Department of Mathematical Sciences.

For the M.S. Degree in Computer Science, satisfactory completion of at least twenty-one (21) semester hours of computer science courses including:

At least two courses in computer software such as

MATH 6711 Advanced Computer Programming

MATH 6765 Information Structures

MATH 6769 Programming Languages

MATH 7760 Compiler Design

MATH 7761 Operating Systems

MATH 7777 Minicomputer Software

At least one theoretical course such as

MATH 7711 Mathematical Foundations of Computer Sciences

MATH 7712 Automata Theory

MATH 7713 Discrete System Theory

MATH 7714 Continuous System Theory

At least one applications course such as

MATH 6713 Numerical Computer Methods

MATH 6715 Artificial Intelligence

MATH 6721 Numerical Analysis I

MATH 6722 Numerical Analysis II

MATH 6741 Linear Programming Methods

MATH 7721 Advanced Numerical Analysis

MATH 7731 Systems Simulation

MATH 7743 Computer Methods for Optimization

MATH 7791 Problems in Computer Science

At least 18 hours of 7000 level courses

Satisfactory performance on an oral comprehensive examination

M.S. Degree Program (Area of Concentration — Statistics)

Program Admission

Score of 27 on MAT or 800 on GRE (Verbal and Quantitative)

Two letters of recommendation

Score of 550 on TOEFL test for foreign students

Program Prerequisites

An undergraduate degree with 2.5 GPA

2. One year (8 semester hours) of calculus. (A student without the calculus can be admitted on a provisional basis.)

C. Program Requirements

1. Satisfactory completion of 30 semester hours graduate credit with a thesis or 33 semester hours of graduate credit without a thesis. Either course of study must be approved by the Department of Mathematical Sciences.

2. For the M.S. degree in Statistics, satisfactory completion of at least twenty-one (21) semester hours of course work in statistics including:

(a) MATH 6613 Introductory Statistical Theory and MATH 7654 Inference Theory.

(b) At least three of the following:

MATH 6611 Statistical Methods I

MATH 6612 Statistical Methods II

MATH 7641 Analysis of Variance

MATH 7643 Least Squares and Regression Analysis

3. At least 18 semester hours of 7000 level courses.

4. Must pass an oral comprehensive examination.

V. Interdisciplinary M.S. Degree Program**A. Program Admission**

1. Score of 27 on MAT or 800 on GRE (Verbal and Quantitative)

2. Two letters of recommendation

3. Score of 550 on TOEFL test for foreign students

B. Program Prerequisites

Undergraduate degree with GPA of 2.5.

C. Program Requirements

1. Satisfactory completion of 33 semester hours of course work in a program approved by the Department of Mathematical Sciences.

2. Satisfactory completion of at least twenty-one (21) semester hours of Mathematical Sciences courses. With the approval of his advisor, the student may elect up to twelve (12) semester hours in a collateral area, i.e., Education, Engineering, Biology, Business, etc. For example, a candidate whose collateral area would be Secondary Education may choose his mathematics courses from those listed below under the heading "Mathematics Courses for Secondary School Teachers."

3. At least 18 semester hours of 7000 level courses.

4. Must pass an oral comprehensive exam.

VI. Ph.D. Degree Program (Area of Concentration — College Teaching)**A. Program Admission**

1. Score of 1000 on GRE

2. Two letters of recommendation

3. Score of 550 on TOEFL test for foreign students

B. Program Prerequisites

Undergraduate degree with a 2.5 GPA

C. Program Requirements

1. The requirements for the Doctor of Philosophy degree will be formulated by a doctoral committee and should generally include two major areas, two minor areas, and four collateral courses. A major area should include a minimum of four courses at the 7000 level or above, a minor area should include at least two courses at the 7000 level or above, and collateral courses should include at least four graduate level courses with at least two being at the 7000 level or above. Also, collateral courses should be spread over at least two different areas. Slight variations in the program of study outlined above will be allowed.

Major, minor and collateral courses may be chosen from eight possible areas in the Department of Mathematical Sciences, (Algebra, Analysis, Applied Mathematics, Computer Science (Applied), Computer Science (Theoretical), Statistics (Applied), Statistics (Theoretical), Topology). Also, a student may choose one area outside of the Department of Mathematical Sciences, either as a major or a minor. Examples of departments in which such a concentration might naturally occur include education, biology, chemistry, and physics, although many other possibilities exist, depending on the individual's needs and desires.

2. Admission to Candidacy, after one full year of Graduate work.

3. Completion of at least two (2) consecutive semesters of residence as a full-time student.

4. Completion of the required course work.

5. Completion of at least 42 semester hours in 7000 or 8000 level mathematics courses, with a minimum of 18 semester hours at the 8000 level.

6. Demonstration of reading proficiency in one foreign language — either French, German, or Russian.

7. Passing the Qualifying Examination.

8. Participation in an internship in College Teaching of Mathematics. (Can be waived for candidates who possess two years of acceptable college teaching experience or other appropriate educationally-related work.)

9. Presentation of an acceptable dissertation.

10. Passing of Final Examination given by a Committee composed of departmental and University representatives.

VII. Ph.D. Degree Program (Area of Concentration — Applied Statistics)**A. Program Admission**

1. Score of 1000 on the GRE

2. Two letters of recommendation

3. Score of 550 on TOEFL test for foreign students

B. Program Prerequisites

Undergraduate degree with 2.5 GPA

C. Program Requirements

1. The requirements of the Doctor of Philosophy degree with an area of concentration in Applied Statistics will be formulated by a doctoral committee of at least three faculty members, two from statistics and one from a minor area. Requirements generally

include a minimum of eight courses in statistics and three courses in the minor area, all at 7000 level or above, and a minimum of two courses in both computer sciences and mathematics, and one 7000 level course in mathematical sciences outside of statistics.

2. Admission to candidacy, after one full year of graduate work.

3. Completion of at least two (2) consecutive semesters of residence as a full-time student.

4. Completion of at least 42 semester hours in 7000 or 8000 level courses with a minimum of 18 semester hours at the 8000 level.

5. Demonstration of reading proficiency in one foreign language acceptable to the appropriate committees.

6. Passing the qualifying examination.

7. Presentation of an acceptable dissertation.

8. Passing of final examination given by a committee composed of departmental and university representatives.

E280 MATHEMATICS (MATH)**COMPUTER SCIENCES (MATH)**

6710. Computer Programming. (3). A first course in the programming of digital computers, stressing algorithmic problem solving BASIC and FORTRAN programming languages and their application to a variety of numerical and non-numerical problems. Use of remote batch terminals and interactive terminals. PREREQUISITE: MATH 1203 or 1211 or equivalent. [0704-1]

6711. Advanced Computer Programming. (3). The elements of computer organization, machine language, forms of data representation and instructions and their effects on algorithmic programs. Operating systems, job control language, and the use of system supplied auxiliaries. Assembler language and its application to a variety of numerical and non-numerical problems. PREREQUISITE: MATH 6710 or its equivalent. [0704-1]

6713. Applied Computer Methods. (3). Methods of numerical computation; interpolations; numerical differentiation and integration; solution of algebraic and transcendental equations; inversion of large matrices; determination of proper vectors and proper values; solution of differential and integral equations; estimation of error and error control. PREREQUISITE: MATH 6710 or equivalent. [0701-1]

6715. Artificial Intelligence. (3). Self-organizing systems, information theory, rational decision-making; pattern recognition, parametric and non-parametric training methods of developing pattern classifiers; problem solving; heuristic programming and problem reduction search methods. PREREQUISITES: MATH 2321 and 6710 or their equivalents. [0701-1]

6721. Numerical Analysis I. (3). Derivation and application of computer-oriented numerical methods for functional approximation, differentiation, quadrature, and the solution of ordinary differential equations, and the solution of ordinary differential equations. PREREQUISITES: MATH 2321 and MATH 6710 or their equivalents. [1703-1]

6722. Numerical Analysis II. (3). Numerical methods of solving applied problems from calculus and differential equations. PREREQUISITE: MATH 2321 and 4710 or its equivalent. [1703-1]

6741. Linear Programming Methods. (3). Theory of linear programming methods; problem formulation; convex sets; simplex and revised simplex methods; matrix games and linear programming. PREREQUISITES: MATH 3241 and 6710 or their equivalents. [1703-1]

6765. Information Structures. (3). Introduction to data structures including lists, stacks, queues, trees, and graphs. Scanning, searching, sorting and merging. Machine representation of data structures, introduction to information storage and retrieval. PREREQUISITE: MATH 6710. [0701-1]

6769. Programming Languages. (3). Classification and structure of programming languages. Syntactic description of programming languages. Scope of declarations and the relationships to resource allocation. Recursive procedures, non-numeric languages, structured programming and language extension. PREREQUISITE: MATH 6710 or its equivalent. [0704-1]

6791. Topics in Computer Science. (3). Directed individual study of selected areas of computer science. Repeatable by permission for a maximum of 6 hours. PREREQUISITE: Permission of instructor. [0701-8]

7711. Mathematical Foundations of Computer Science. (3). Background in abstract algebra required for the study of switching, automata theory, and the theory of computation. Topics include sets, relations, functions, groups, semi-groups, lattices and Boolean logic. Software applications are made to various areas of information science. PREREQUISITE: MATH 6261 or permission of instructor. [1701-1]

7712. Automata Theory. (3). Finite automata, Kleene's theorem; infinite machines and finite computation, recursive function theory. Post systems and context-free languages; decomposition of machines, stochastic automata. PREREQUISITE: MATH 7711. [0701-1]

7713. Discrete System Theory. (3). Discrete-time dynamical systems; state variable description and classification; controllability and observability; linearity and time-invariance. Theory of autonomous systems. PREREQUISITES: MATH 3241 or equivalent and MATH 3391. [0705-1]

7714. Continuous System Theory. (3). Canonical structures of dynamic systems; formulation of sensitivity equations; computer methods for analysis of large dynamic systems; rational decision making. PREREQUISITES: MATH 3241 or equivalent and MATH 3391. [0705-1]

7721. Advanced Numerical Analysis. (3). A continuation of Mathematics 6722; specialized methods and techniques in the field of numerical analysis. PREREQUISITE: MATH 6722. [1703-1]

7731. Systems Simulation. (3). Mathematical modeling for digital simulation; variables, determinism, non-determinism, aggregation. Simulation design, languages, outputting, and de-

bugging. Applications of computer simulation. PREREQUISITE: MATH 6710. [J705-1]

7743. Computer Methods for Optimization. (3). Optimization theory for static and dynamic systems of nonlinear equations, with and without constraints. Includes the development of computer algorithms for Newton-Raphson methods, gradient techniques, search methods, geometric programming, dynamic programming, and the maximum principle. PREREQUISITES: MATH 2322 and 6710 or their equivalents. [J701-1]

7760. Compiler Design. (3). Translation of computer source language including compiling of interpreters, scanning and code generation, for arithmetic and Boolean expressions, arrays, conditional and iterative statements using recursive and non recursive compiling techniques. Construction of an automated compiler given a source language in the form of a context-free grammar and a target in the form of actions to be performed when the rules of the grammar are satisfied. PREREQUISITE: MATH 6711 or 6765. [J701-1]

7761. Operating Systems. (3). Function, structure, and design parameters of computer operating systems. Time sharing, multiprocessing, and multiprocessing considerations. Actual operating systems. Design methodology and evaluation techniques. PREREQUISITE: MATH 6711. [J705-1]

7777. Minicomputer Software. (3). Software design and implementation for microprogrammable minicomputers. Parallel instruction execution, I/O programming, peripheral processors, multi-tasking and computer networks. Assemblers, laboratory projects, firmware implementation of instructions and machine operation. PREREQUISITES: MATH 6711 or 6765 plus MATH 7760 or 7761. [J701-1]

7791-8791. Problems in Computer Science. (1-4). Directed independent problem research and program design, writing and documentation in an area selected by the student with approval of both the adviser and supervising staff members. Repeatable by permission. PREREQUISITE: Permission of instructor. [J701-8]

7793-8793. Seminar in Computer Science. (1-3). Advanced topics and recent developments in computer science. Repeatable by permission. [J701-1]

MATHEMATICS (MATH)

6171. Special Problems in Mathematics. (1-3). Directed individual study in a selected area of mathematics chosen in consultation with the instructor. Repeatable by permission of the Chairman of the Department. PREREQUISITE: Permission of the instructor. [J701-8]

6221. Theory of Numbers. (3). Divisibility properties of integers; prime numbers; congruences; Diophantine equations; quadratic residues; number theoretic functions. PREREQUISITE: MATH 1312 or 1321. [J701-1]

6241. Linear Algebra. (3). Systems of linear equations; matrices and elementary row operations; vector spaces and subspaces; computations concerning subspaces; linear transformations; linear functionals; annihilators; polynomials; Lagrange interpolation; polynomial ideals; prime factorization of a polynomial. PREREQUISITE: MATH 2321 or permission of instructor. [J701-1]

6261. Abstract Algebra. (3). Rings; integral domains; fields; groups; divisibility theory; real and complex numbers; polynomials. PREREQUISITE: MATH 2321. [J701-1]

6350. Advanced Calculus. (3). The real number system, functions and sequences, limits, continuity, differentiation; Riemann-Stieltjes integration, series of functions. PREREQUISITE: MATH 2322. [J701-1]

6351. Advanced Calculus. (3). Integration theory; Riemann and Lebesgue integrals; partial differentiation; implicit function theorem. PREREQUISITE: MATH 6350 or permission of instructor. [J701-1]

6361. Complex Variables. (3). Complex numbers, point sets and mappings; analytic functions; integration. PREREQUISITE: MATH 2322. [J701-1]

6391. Applied Mathematics. (3). Laplace transforms; Fourier series; introduction to partial differential equations. PREREQUISITE: MATH 3391. [J703-1]

6392. Applied Mathematics. (3). Partial differential equations. PREREQUISITE: MATH 6391. [J703-1]

6411. Topology. (3). Introductory set theory; metric spaces; topological spaces; mappings; Hausdorff spaces; connectedness and compactness. PREREQUISITE: MATH 4350. [J701-1]

7211-8211. Topics in Algebra. (3). Repeatable by permission. PREREQUISITE: Permission of the instructor. [J701-1]

7241. Linear Algebra. (3). Vector Spaces; linear transformations and functionals; determinants; rational and Jordan forms; inner product spaces; bilinear forms; PREREQUISITE: MATH 6241. [J701-1]

7261. Algebraic Theory I. (3). Theory of groups, rings, integral domains, and fields, with applications. PREREQUISITE: MATH 6261. [J701-1]

7262. Algebraic Theory II. (3). A continuation of MATH 7261, also including ideals, modules, tensor products, free algebras and Galois theory. PREREQUISITE: MATH 7261. [J701-1]

7311-8311. Topics in Analysis. (3). Repeatable by permission. PREREQUISITE: MATH 7350. [J701-1]

7350. Real Variable. (3). Jordan and Lebesgue measure in \mathbb{R}^n , measurable functions; Lebesgue integrals; multiple and iterated integrals; metric spaces. PREREQUISITE: MATH 6351. [J701-1]

7351-8351. Measure Theory. (3). Modern theories of integration on Hausdorff spaces; abstract measure spaces and topological groups. PREREQUISITES: MATH 7350, 7262, and 7411. [J701-1]

7355-8355. Functional Analysis I. (3). Vector spaces, Banach spaces, Hilbert spaces; linear functionals and operators in such spaces; spectral theory. PREREQUISITE: MATH 7350. [J701-1]

7356-8356. Functional Analysis II. (3). A continuation of MATH 7355-8355. PREREQUISITE: MATH 7355-8355. [J701-1]

7361. Complex Analysis. (3). Power Series; calculus of residues; conformal representations. (3) PREREQUISITE: MATH 6361. [J701-1]

7390. Special Functions I. (3). Infinite products; asymptotic series; generalized hypergeometric functions; the confluent hypergeometric function. PREREQUISITE: MATH 6391. [J703-1]

7391-8391. Optimization Techniques. (3). Calculus of variations, gradient methods, Pontryagin maximum principle. PREREQUISITE: MATH 6391. [J703-1]

7392-8392. Special Functions II. (3). Methods of obtaining and using generating functions; orthogonal polynomials with applications. PREREQUISITE: MATH 7390. [J703-1]

7393-8393. Differential Equations and Applications. (3). The concepts of stability and periodic oscillation are examined for systems that arise in harmonic oscillation, population dynamics, circuit theory, mechanics, ecology, epidemics and other areas that depend on the interests of the class. PREREQUISITE: MATH 3391 or consent of instructor. [J703-1]

7395-8395. Theory of Differential Equations. (3). Linear and nonlinear systems, Poincaré-Bendixson theory, Liapunov's direct method, fundamental properties of solutions including existence and uniqueness, and applications. PREREQUISITE: MATH 3111 and 4241. [J703-1]

7411. Point Set Topology. (3). An axiomatic approach to compactness, separability, connectedness, metrizable and other topological properties. PREREQUISITE: MATH 6411. [J701-1]

7412-8412. Point Set Topology. (3). A continuation of MATH 7411. PREREQUISITE: MATH 7411. [J701-1]

7413-8413. Algebraic Topology. (3). A continuation of MATH 7411. PREREQUISITE: MATH 7411 and 7261. [J701-1]

7421-8421. Topics in Geometry and Topology. (3). Repeatable by permission. PREREQUISITE: MATH 7412-8412. [J701-1]

7821-8821. Special Problems in Mathematics. (1-3) Directed individual study in a selected area of mathematics chosen in consultation with the instructor and the student's advisor. Repeatable by permission. PREREQUISITE: Permission of the instructor. [J701-8]

7921-8921. Topics in Differential Equation. (3). Repeatable by permission. PREREQUISITE: MATH 7393. [J703-1]

7922-8922. Topics in Applied Mathematics. (3). Repeatable by permission. PREREQUISITE: Permission of the instructor. [J703-1]

7996. Thesis. (3-6). [J701-6]

8011. Practicum in College Teaching of Mathematics. (Variable and Repetitive Credit). The methods and techniques of teaching mathematics at the college level; supervised instruction conferences, group discussions, students will participate in current research projects in mathematics methodology. PREREQUISITE: Permission of the instructor. [J0899-1]

8811. Advanced Seminar in Mathematics. (3). PREREQUISITE: Permission of the instructor. Repeatable by permission. [J701-1]

8881. Advanced Seminar in Mathematics Education. (1-3). Repeatable by permission. PREREQUISITE: Permission of the instructor. [J0833-1]

9000. Dissertation. (1-5). Independent research for the Ph.D. degree. Application for writing a dissertation must be filled out on an approved form after consultation with the Doctoral Advisors and Committee and filed with the Dean of Graduate Studies. [J701-7]

MATHEMATICS COURSES FOR SECONDARY SCHOOL TEACHERS (MATH)

6151. History of Mathematics. (3). The development of mathematics from the earliest times to the present; problem studies; parallel reading and class reports. PREREQUISITE: MATH 2321 or its equivalent. [J701-1]

7171. Workshop in Junior High Mathematics. (3). This course is designed to provide in-service training, with emphasis on new course content. [J701-1]

7174. Workshop in Senior High Mathematics. (3). This course is designed to provide in-service training, with emphasis on transformation geometry. [J701-1]

7281. Linear Algebra for Teachers. (3). Euclidean n -space; vector spaces; subspaces; linear independence and bases; linear transformations; matrices; systems of linear conditions; characteristic values and vectors of linear transformations. [J701-1]

7282. Abstract Algebra for Teachers. (3). A basic abstract algebra course designed especially for teachers. Topics will include: groups, rings, integral domains, fields; an axiomatic approach to the development of algebra; concepts of proof. PREREQUISITE: College Algebra. [J701-1]

7381. Introduction to Analysis I. (3). Periodic functions; plane analytic geometry elementary functions; nature of the derivative; differentiation of algebraic and trigonometric functions; applications of the derivative; basic concepts of integration. [J701-1]

7382. Introduction to Analysis II. (3). A continuation of MATH 7381; the definite integral with applications; integration of elementary transcendental functions; techniques of integration applications of the definite integral; introduction to ordinary differential equations. PREREQUISITE: MATH 7381 or equivalent. [J701-1]

7383. Introduction to Advanced Calculus. (3). Set theory; symbolic logic; postulational systems; real number system; argument and proof; functions; sequences and limits; continuity; differentiability; integration and multiple integrals; infinite series. PREREQUISITE: MATH 7382 or equivalent. [J701-1]

7511. Geometric Theory. (3). Functions of geometry; extensions of Euclidean geometry; non-Euclidean geometry; introduction to projective geometry. PREREQUISITE: MATH 3111 or 7181. [J701-1]

7681. Probability for Secondary Teachers. (3). Probability spaces, theory of statistical inference, physical interpretations of probability. [J702-1]

STATISTICS (MATH)

6611. Statistical Methods I. (3). Binomial, hypergeometric, Poisson, multinomial and normal distributions; test of hypotheses, chi-square test, t-tests, F-test, etc.; non-parametric tests; correlation analysis. PREREQUISITE: 6 hours in Mathematics at the level of MATH 1211 or above. [J702-1]

6612. Statistical Methods II. (3). Continuation of Statistics 6611. An introduction to analysis of variance, regression, and analysis of covariance. PREREQUISITE: MATH 6611. [J702-1]

6613. Introductory Statistical Theory. (3). Distribution of functions of random variable; limiting distributions; correlation analysis; Neyman-Pearson Lemma; likelihood ratio tests; sufficient statistics; point estimation. PREREQUISITE: MATH 2321. [J702-1]

6631. Probability. (3). Basic concepts in probability; probability models; applications. PREREQUISITE: 6 hours in Mathematics at the level of MATH 1211 or above. [J702-1]

6671. Topics in Statistics. (3). Recent developments in statistical methods and applications. PREREQUISITE: Permission of the instructor. [J702-1]

7641. Analysis of Variance. (3). The analysis of variance in experimental statistics, single and multiple classification, factorial analysis of designed experiments including randomized blocks, Latin squares, split plots, simple confounded design multiple comparisons and orthogonal contrasts. PREREQUISITE: MATH 6611 or 6613. [J702-1]

7642-8642. Experimental Design. (3). Fundamental concepts designing experiments, justification of linear models, randomization, principle of blocking, use of concomitant observation principle of confounding, fractional replication, composite designs, incomplete block designs. PREREQUISITE: MATH 7641 or 7643. [J702-1]

7643. Least Squares and Regression Analysis. (3). Simple, multiple, and curvilinear regression analysis, orthogonal polynomials, analysis of nonorthogonal and incomplete experiments, least squares, methods, computer methods for least squares problems. PREREQUISITE: MATH 6611 or 6613. [J702-1]

7645. Sampling Techniques. (3). Planning, execution, and analysis of sampling from the finite populations; simple, stratified, multistage, and systematic sampling; ratio estimates. PREREQUISITE: MATH 6611 or 6613. [J702-1]

7647. Nonparametric Statistical Methods. (3). Use of distribution-free statistics for estimation, hypothesis testing, and correlation measures in designing and analyzing experiments. PREREQUISITE: MATH 6611, 6613. [J702-1]

7651-8651. Theory of Linear Models. (3). Quadratic form point and interval estimation, multivariate normal distribution linear models, general linear hypothesis of full rank computational techniques; functional relationships. PREREQUISITE: MATH 6611, 6613, and 7654. [J702-1]

7652-8652. Theory of Nonparametric Statistics. (3). The theory and development of distribution-free statistics. PREREQUISITE: MATH 7654. [J702-1]

7654. Inference Theory. (3). General theory of estimation a sufficiency; maximum likelihood and Bayesian estimators; minimum variance estimators; Neyman-Pearson theory of testing hypotheses; elements of decision theory. PREREQUISITE: MATH 6613. [J702-1]

7657-8657. Multivariate Statistical Methods. (3). Basic concepts: Multivariate normal distributions; Wishart distribution Hotelling's T^2 , Matrix and Beta distributions; generalized regression models and growth curve models; multivariate analysis of variance; principal component analysis; discriminant analysis; factor analysis; curve fitting procedures in multivariate cases. All topics will be illustrated by practical examples. PREREQUISITE: MATH 6613 or permission of the instructor. [J702-1]

7660-8660. Applied Time Series Analysis. (3). Basic concepts and examples of stationary and non-stationary time series. Random harmonic analysis. Spectral density functions. Model building procedures for time series models. Model identification. Diagnostic checking, smooth, forecasting and control. Box-Jenkins approach of time series analysis. Some seasonal models. PREREQUISITE: MATH 6613. [J702-1]

7670-8670. Applied Stochastic Models. (3). Markov chains with discrete time. Classification of states, stationary distribution, absorption probabilities and absorption time. Markov chains with continuous time. Birth-death processes. Waiting time distributions. Queueing models. Population growth models. Forward and backward equations. Diffusion process Fokker-Planck equation. Applications to genetic problems. PREREQUISITE: MATH 6613. [J702-1]

7671-8671. Advanced Topics in Statistics. (1-3). Directed individual study of recent developments in statistics. Repeatable by permission. PREREQUISITE: Permission of the instructor. [J702-8]

7680-8680. Bayesian Inference. (3). Nature of Bayesian inference. The formulation and choice of prior distributions. Advantages and disadvantages of Bayesian Approach. The applications of Bayesian approach to Behren-Fisher problems, regression analysis and to the analysis of random effect models. The applications of Bayesian approach to the assessment of statistical assumptions. Bayesian prediction procedure. PREREQUISITE: MATH 6613. [J702-1]

7691-8691. Seminar in Statistical Research. (3). Recent developments in statistical methods and its applications. Basic topics cover "multivariate method," growth curve models, robustness and effects of departure from basic statistical assumptions on common inference procedures, multivariate contingency tables, Bioassay, etc. PREREQUISITE: MATH 6613. [J702-1]

[†]Grades of S, U, or IP will be given.

PHILOSOPHY

ASSOCIATE PROFESSOR
NORMAN C. GILLESPIE
Chairman

Room 319, Clement Hall

DR. RONALD H. EPP, *Coordinator of
Graduate Studies*

The Department of Philosophy offers a graduate program leading to the Master of Arts degree. The program is designed to prepare students for further work in philosophy leading to a Ph.D. degree, and to provide students from other areas, who wish to take additional courses in philosophy, with the opportunity to earn a master's degree.

A. Degree Program

Program Admission

A bachelor's degree from a recognized college or university, with a minimum of a 2.5 quality point average on a scale of 4.0. Students with less than a 2.5 quality point average may, on occasion, be granted probationary admission.

An acceptable score on the general aptitude portion of the Graduate Record Examination or the Miller's Analogy Test. The department desires, but does not require, that the advanced philosophy portion of the Graduate Record Examination also be taken.

At least 18 semester hours in undergraduate philosophy courses including the following courses or their equivalent: introduction to philosophy, ethics, elementary logic, intermediate logic, history of ancient philosophy and history of modern philosophy. Students who lack one or more of these courses may be admitted to the program only on the condition that they take the appropriate course as soon as possible.

Three letters of recommendation from people qualified to judge the student's ability to undertake graduate work. Forms for this purpose may be obtained from the chairman of the department and should be returned to him, not to the Graduate School.

Program Requirements

Forty to thirty-three hours of class work, 21 of which must be in philosophy and 18 of which must be at the 7000 level or above. Students who write a thesis are required to take 30 hours, 3 to 6 of which is credit for the thesis. Students who do not write a thesis are required to take 33 hours.

Proficiency in one foreign language in which there is significant body of philosophical literature. Ordinarily either French or German is required although some other language may be substituted with the approval of the graduate faculty. A student petitioning the graduate faculty to have the language requirement waived if it is not essential to the student's program. Proficiency in a foreign language is demonstrated by scoring a minimum of the 35th percentile on the appropriate Graduate Record Foreign Language Test, or by receiving a "B" or better in a fourth semester course (or its equivalent, e.g., Languages 2000?) in the appropriate language.

A written comprehensive examination covering the major areas and history of philosophy.

A formal defense of the thesis before the graduate faculty.

E330 PHILOSOPHY (PHIL)

1. **History of Ancient Philosophy.** (3). Selected readings from primary sources, supplemented by commentary from antiquity and modern scholarship, including the Pre Socratics, Plato, Aristotle, and the Hellenistic period. [1509-1]

2. **History of Modern Philosophy.** (3) A critical survey of major philosophers of the 17th and 18th century with special attention to the metaphysical and epistemological issues that divided Rationalism and Empiricism. Readings from Descartes, Spinoza, Leibniz, Locke, Berkeley, Hume and Kant. [1509-1]

3. **Recent Anglo-American Philosophy.** (3). An examination of major developments in philosophy in England and the United States from 1900 to present with reading from such philosophers as Russell, Moore, Ayer, Wittgenstein, James, Dewey, Quine and other contemporary authors. [1509-1]

4. **Philosophy of the Nineteenth Century.** (3). Extensive reading in representative 19th Century philosophers from Hegel to Nietzsche with special attention given to German idealism (especially Hegel) and the reaction against it (left and right wing Hegelianism, Marx, Kierkegaard, Nietzsche) as well as utilitarianism, Darwinism, and the rise of positivism. [1509-1]

5. **Recent Continental Philosophy.** (3). An examination of primary texts of the mainstream of contemporary continental thought; phenomenology (Husserl, Heidegger), structuralism (Lacan, Foucault, Derrida), and critical social theory (Horkheimer, Adorno, Habermas). [1509-1]

6. **Contemporary Ethical Theory.** (3). An examination of contemporary ethical theories with an emphasis on the problems that any adequate moral theory must solve. [1509-1]

7. **Philosophy of Law.** (3). An introduction to theories of legal reasoning and philosophical problems regarding the basic principles of jurisprudence. Designed for pre-law and other students pursuing law related careers. Topics covered include concepts of law, legal realism, stare decisis, equity jurisprudence, civil disobedience. [1509-1]

8. **Social and Political Philosophy.** (3). An examination of major philosophical theories of man and the state with emphasis upon the concepts of society, culture, institutions, government, law, power, authority, rights, and obligation. Selected readings. [1509-1]

9. **Advanced Logic.** (3). The nature of axiomatic systems, techniques of formalization, and the logical foundations of mathematics. [1509-1]

6761. **Philosophy of Art.** (3). A course dealing with the role of philosophical ideas in artistic creation and experience and their expression in painting, sculpture, music, and other art forms. [1509-1]

6801. **Systematic Topics in Philosophy.** (3). Topics in areas of epistemology, metaphysics, philosophy of language, philosophy of mind, logical theory, axiology. Area to be covered will be in the *Schedule of Classes*. May be repeated for a maximum of 15 hours credit. PREREQUISITE: Two courses in philosophy or permission of instructor. [1509-1]

7051. **Seminar in Systematic Philosophy.** (3). An intensive study of one philosophical problem or group of related problems not covered in other graduate seminars. The content of this course in any particular semester will be announced in the class schedule. May be repeated for credit if not to improve grade. [1509-1]

7201. **Seminar in Classical Philosophy.** (3). An intensive study of a major figure or movement within the ancient or medieval period of Western philosophy. May be repeated for credit if not to improve grade. [1509-1]

7203. **Seminar in Contemporary Philosophy.** (3). An intensive study of a major figure or movement within contemporary philosophy. May be repeated for credit if not to improve grade. [1509-1]

7301. **Seminar in Modern Philosophy.** (3-6). An intensive study of a major figure or movement within the modern period of Western Philosophy. May be repeated for credit if not to improve grade. [1509-1]

7495-8495. **Seminar in the Future: Society and Values.** (3). A course dealing with the ethical and legal problems facing policy makers, managers and administrators, which arise from changes in the larger social and political environment. Students will be introduced to alternative moral and value systems, with emphasis on their conceptual foundations, the manner in which decision making takes place within each, and the extent to which specific decisions within a given system may or may not be applicable to changing societal problems. Guest lecturers from various disciplines and professions will be a regular part of the course. [1509-1]

7541. **Seminar in Social and Political Philosophy.** (3). An examination of some of the major speculative and critical philosophies of society and the state with attention to such problems as the philosophical foundations of the social sciences, the nature of political authority, rights, obligations and related problems. [1509-1]

7671. **Philosophy of Science.** (3). Lectures, organized discussions and reports, centering around contemporary problems of analysis of scientific methods, arguments, terms, and their social and philosophical consequences. [1509-1]

7721. **Aesthetics.** (3) A study of the fundamental issues in aesthetics through an examination of the important classical and contemporary theories of art. [1509-1]

†7994. **Reading and Research.** (3-6). Individual supervision under a member of the graduate faculty on a topic within the student's major field of interest. [1509-8]

†7996. **Thesis.** (1-6). [1509-6]

†Grades of S, U, or IP will be given.

PHYSICS

PROFESSOR CECIL SHUGART, *Chairman*

Room 216 Manning Hall

DR. ROBERT R. MARCHINI, *Coordinator of
Graduate Studies*

I. The Department of Physics offers a major in Physics for the Master of Science degree.

II. M.S. Degree Program



A. Program Admission

Students majoring in Physics for the Master of Science degree are required to present as a prerequisite 20 semester hours of undergraduate physics courses including upper division Mechanics, Electricity and Magnetism, and approved Mathematics courses in Calculus and Differential Equations.

B. Program Requirements

1. After meeting the general degree requirements for admission to The Graduate School, students selecting Physics as a major will be assigned to the Graduate Committee who must approve and direct their course of study.

2. If a *thesis program* is selected, the following minimum requirements must be satisfied.

a. 18 semester hours of physics courses numbered 7000 or above, including PHYS 7100, 7200, 7300, 7520, and 7996

b. Sufficient additional courses to satisfy a minimum of 30 semester hours of work in which 9 may be in a collateral field of study

c. Satisfactory completion of a comprehensive examination

3. If the *non-thesis program* is selected, the following minimum requirements must be satisfied.

a. 21 semester hours of physics courses numbered 7000 or above, including PHYS 7100, 7200, 7300, and 7520

b. Sufficient additional courses to satisfy a minimum of 33 semester hours of work in which 9 may be in a collateral field of study

c. Satisfactory completion of a comprehensive examination

E350 PHYSICS (PHYS)

6051. Astrophysics. (3). Application of radiation laws to the interpretation of stellar structure. Introduction to radiative transfer in atmospheres. The spectral and luminosity classification of stars, stellar populations and evolution. *Three lecture hours and occasional observation periods per week. [1912-1]*

6110. Nuclear Physics. (3). Properties of atomic nuclei, radioactive transitions, alpha, beta and gamma decay. Binding energy, nuclear forces and nuclear models. *[1904-1]*

6211. Optics. (3). Geometrical and physical optics including such topics as thin lenses, spherical mirrors, lens aberrations, optical instruments, waves interference, diffraction, absorption, transmission, and scattering. *Three lecture, three laboratory hours per week. PREREQUISITE: PHYS 3212; MATH 2322. [1902-1]*

6410. Introduction to Quantum Theory. (3). Experimental basis of quantum theory; development of the Schrodinger equation and its solution of simple systems; selected applications in atomic and molecular structure. *Three lecture hours per week. [1902-1]*

6510. Thermodynamics. (3). A mathematical treatment of thermodynamics, including such topics as work, energy, enthalpy, entropy, reversible and irreversible processes, equilibria, specific heat transition. *Three lecture hours per week. RECOMMENDED PREREQUISITE: PHYS 3112 or 3212. [1902-1]*

6610. Solid State Physics. (3). Consideration of such topics as lattice vibrations, specific heats, electrical and thermal conductors, in solids, magnetism. *Three lecture hours per week. [1902-1]*

7010. General Physics for High School Teachers. (3). Basic and fundamental concepts of mechanics, heat, and sound. Lectures, demonstrations, and actual laboratory experiments. The principal objective of the course will be to strengthen the background of science teachers. Credit for this course does not apply toward a major or minor in chemistry or physics. *[1902-1]*

7020. Fundamental Concepts of Contemporary Physics for High School Teachers. (3). To include many of the newer topics emphasized in the modern high school texts. Electronics, the newer phases and concepts of electricity and magnetism, x-rays, radioactivity, and the basic principles of atomic and nuclear physics. The principal objective of the course will be to strengthen the background of science teachers. Credit for this course does not apply toward a major or minor in chemistry or physics. *[1902-1]*

7030. Selected Topics in Modern Physics for High School Teachers. (3). Advanced topics of atomic and nuclear physics, together with the basic concepts of solid state physics, electronics, and space technology will be presented. Laboratory experience with more advanced electronic and nuclear equipment will be provided. A background in basic physics is recommended as a prerequisite. *Three lecture hours per week. [1902-1]*

7040. Mathematical Physics. (3). A survey of mathematical methods employed in advanced physics on the graduate level. Fourier analysis, complex variables, special function, Eigenvalues, tensor analysis, Green's functions and similar topics with emphasis upon their application to both theoretical and experimental physics courses. *[1902-1]*

7041. Mathematical Physics. (3). A continuation of PHYS 7040. *[1902-1]*

7050. Special Topic in Physics. (3-6). Selected topics of interest and importance in advanced Physics. Individual investigation and reports under the guidance of the major adviser will constitute a major part of the course. Maximum six semester hours credit allowed. *[1902-8]*

7060. Fundamental Concepts of Plasma Physics. (3). Topics include phase space and distribution functions, hydrodynamic equations, interaction of electromagnetic waves with plasmas, magnetic and kinetic pressures, the Debye length, collisions and radiation, longitudinal oscillations of plasma elements, diffusion mobility and transport phenomena, the pinch effect, and velocity-space plasma instabilities. *[1902-1]*

7070. Astronomy for Teachers. (3). Astronomy intended to strengthen the background of secondary teachers. Topics include observational astronomy, the solar system, stars and stellar evolution, stellar systems, galaxies, cosmology. Occasional night observation sessions. May not apply toward a major or minor in physics or chemistry. *[1911-1]*

7100. Classical Mechanics. (3). An analytical study of mechanics of particles and rigid bodies by Lagrange's, Hamilton's and Hamilton-Jacobi methods. The special theory of relativity, canonical transformation, and Poisson brackets are among the concepts emphasized. *[1902-1]*

7101. Classical Mechanics. (3). A continuation of PHYS 7100. *PREREQUISITE: PHYS 7100. [1902-1]*

7200. Advanced Quantum Mechanics. (3). Introduction to the concepts and formalism of relativistic quantum mechanics and quantum field theory. A detailed study of the concepts and formalism of Heisenberg formulation, perturbation theories, spin and angular momentum and relativity. *[1902-1]*

7201. Advanced Quantum Mechanics. (3). A continuation of PHYS 7200. *PREREQUISITE: PHYS 7200. [1902-1]*

7300. Electrodynamics. (3). An advanced course in electricity and magnetism. Topics include fields and potentials, energy methods, steady currents and magnetic materials, Maxwell's equations and electromagnetic waves. *[1902-1]*

7520. Statistical Mechanics. (3). Elements of kinetic theory and applications to gases, specific heats, magnetism, etc. Partition functions, introduction to Boltzmann statistics and quantum statistics. Modern theories of statistical data interpretations. *Three lecture hours per week. [1902-1]*

7610. Advanced Topics in Solid State Physics. (3). Introduction to the quantum theory of solids. Band theory, magnetism, superconductivity, lattice dynamics, and other advanced topics. *[1902-1]*

7710. Advanced Topics in Optical Spectroscopy. (3). Advanced topics in atomic and molecular spectroscopy, including the interaction of optical radiation with matter, the transition probabilities, hyperfine structure, applications of group theory to spectroscopic problems. *[1902-1]*

†7996. Thesis. (3-6). Original investigation of an assigned problem in the area of graduate study to be carried out under the supervision of a qualified member of the staff. This investigation will furnish the material for a thesis. Scientific articles, progress reports, and special problems of interest are reviewed and discussed by the student in seminars each semester. A maximum of six semester hours credit is allowed toward a master's degree. *[1902-6]*

†Grades of S, U, or IP will be given.

POLITICAL SCIENCE

PROFESSOR H. PIERRE SECHER

Chairman

Room 427, Clement Hall

DR. JERRY P. ROSENBERG, *Coordinator of Graduate Studies (M.A.)*

DR. CAROLE F. SOUTHERLAND, *Coordinator of Graduate Studies (M.P.A.)*

I. The Department of Political Science offers individually-tailored programs leading to the Master of Arts in Political Science and the Master of Public Administration. The Master of Arts degree in Political Science provides a broad foundation in politics and government for those intending further graduate study or careers in education and public service. Both thesis and non-thesis programs are available. Also, the study of Political Science may be combined with study in one of the other behavioral sciences.

The Master of Public Administration degree programs educates men and women for careers in government and for employment with non-profit and publicly-oriented organizations. The program combines interdisciplinary academic preparation with governmental internship experience.

The Institute of Governmental Studies and Research provides unique research opportunities and field experience for students in both programs; academic credit can be obtained for internship programs with national, state and local governments, as well as for research and study abroad.

Assistantships are available for qualified students in both programs.

All graduate students will consult with their advisor in the Department of Political Science as to the program of study they expect to follow.

II. The Department of Political Science offers a graduate program leading to the Masters of Arts with a major in Political Science, and a graduate program leading to the Master of Public Administration degree. Special topics of study included for the Master of Arts in Political Science are: Political Theory; Normative and Empirical; American Politics; National, State and Urban; Comparative Politics; International Politics; Public Administration; and Public Law. For the Master of Public Administration program, the following concentrations are provided: General Public Administration; Urban Management and Planning; Comparative and Developmental Administration; Health Services Administration (offered jointly with the Center for Health Sciences, University of Tennessee); Criminal Justice Administration; Public Policy Analysis; Program Evaluation. A special topic of study is Manpower Administration (in cooperation with the Center for Manpower Studies, College of Business Administration).

III. M.A. Degree Program

A. Program Admission

A minimum of 18 semester hours in Political Science, except in special cases approved by the Chairman of the Department.

Student must meet the University's requirements for admission to the Graduate School. Application dates: March 1 for Assistantships; July 15 for Fall admission.

B. Program Requirements

1. A total of 30 semester hours in graduate courses with a thesis or 36 semester hours in graduate courses without a thesis

2. Satisfactory completion of Political Science 7100. Seminars Methods of Political Science Research.

3. At least 18 semester hours of the courses must be taken the 7000 level, twelve of which must be in Political Science.

4. Satisfactory performance on a Comprehensive Examination

5. A minimum of two courses from three of the fields of Political Science listed above, unless one chooses to take at least hours in a collateral area in another behavioral science.

6. At least six but no more than nine hours of graduate work a collateral area can be taken outside of Political Science; must be approved by the Graduate Committee.

7. No more than 6 semester hours of internship courses may be counted toward the 30 or 36 semester hour requirement.

IV. M.P.A. Degree Program

A. Program Admission

A suitable record of preparation in the social sciences or other relevant courses. Students with inadequate preparation may be admitted and the deficiencies removed without graduate credit.

B. Program Prerequisites

Those entering the program who have had no public administration courses must take Political Science 3601. Public Administration, or its equivalent.

C. Program Requirements

1. A total of at least 42 semester hours in graduate courses.

2. Satisfactory completion of the following core curriculum: POLS 6602 — Public Finance Administration
POLS 6603 — Public Personnel Administration
POLS 7600 — Seminar in Administrative Theory
POLS 7601 — Methods of Problem Solving in Public Administration

3. Satisfactory completion of Political Science 6110. Techniques of Political Analysis, or an equivalent course.

4. Satisfactory completion of POLS 7610, Internship in Public Administration. (6). This requirement can be met by a supervised internship or by administrative experience in a public nonprofit organization. Students currently employed in an administrative capacity may petition a graduate committee for permission to substitute an alternative to the supervised internship. Three or six semester hours may be allowed administrative experience in a public or nonprofit organization upon submission of a written report of that experience. In those cases where three semester hours are allowed, the student required to complete POLS 7611. Practicum. (3).

5. At least 18 semester hours of the courses must be taken the 7000 level, twelve of which must be in Political Science.

6. Completion of a concentration of courses in one of the following areas:

General Public Administration
Health Services Administration
Urban Management and Planning
Comparative and Developmental Administration
Public Policy Analysis/Program Evaluation
Criminal Justice Administration

7. The Master of Public Administration is an interdisciplinary degree and students may take up to 12 semester hours of it work outside of the Department of Political Science with the approval of the advisor.

8. Satisfactory completion of a Comprehensive Examination.

E370 POLITICAL SCIENCE (POLS)

6101. Techniques of Political Analysis. (3). An introduction to the analysis of quantitative data used to test hypotheses in the fields of political science and public administration, including both parametric and non-parametric techniques. Particular attention is given to alternative measures of association and significance, regression, factor analysis, path analysis, and causal modeling. *[2207-1]*

6102. Political Behavior. (3). An introduction to the contributions of the behavioral sciences to an understanding of the political system. Political behavior is examined as manifested in the form of attitudes, public opinion, group organizations, and political power. *[2207-1]*

6103. Political Socialization. (3). A study of the process whereby political attitudes and values are passed from one generation to the next and altered in transmission. Includes quantitative measurement of political attitudes. *[2207-1]*

6211. Constitutional Law — National Powers. (3). An analysis of the relationships and controls of the three branches and nature of the division of power between the nation and states, with emphasis on the role of the Supreme Court as arbiter in the constitutional system. *[2207-1]*

6212. Constitutional Law — Civil Liberties. (3). An examination of the judicial interpretation of political and civil rights with emphasis on the period since 1945. *[2207-1]*

6213. Public Policy. (3). The analysis of selected public policy issues and the interplay of organization and politics in the policy making process. *[2207-1]*

6214. The Presidency and Executive Decision-Making. (3). Detailed study of the role of the executive in American politics. *[2207-1]*

6215. Constitutional Politics and the Judicial Process. (3). Examination of the limits of the political resources and power of the judiciary. Primary attention is directed toward the extent to which the United States Supreme Court is able to obtain compliance with its decisions on highly politicized and controversial questions of public policy. To that end, it investigates the Court in conflict with other branches of the national government, state governments, and public opinion. *[2207-1]*

6216. Interest Groups in the American Political System. (3). An investigation of the role and impact of selected interest groups within the American political system. Group theory, tactics, and group relationships with various governmental institutions will also be discussed. [2207-1]

6217. The Legislative Process. (3). The origins, organization, functions, and activities of the modern legislature, making laws, supervising the administration, representing and informing the people. [2207-1]

6218. Public Opinion and Politics. (3). An investigation of the formation, measurement and content of public opinion about political issues. Class will include a public opinion poll of the local community. [2207-1]

6221. Urban Administration. (3). Examination of politics, administration, and public policy in an urban context; focus on the administrative aspects of selected governmental policy-making processes; interrelationships of governments at various levels; urban challenges facing modern public administration. [2102-1]

6224. Urban Problems. (3). A study of selected problems in urban administration, politics, and policies. [2214-1]

6225. The Courts and Urban Policy. (3). An examination of the courts as policy-makers in the urban realm. It explores how, why, and to what extent the Courts have become major participants in the shaping of urban policies and considers the institutional competence of the judiciary to deal with these matters. [2207-1]

6230. Legislative Internship. (3-12). Supervised internship working with the Tennessee General Assembly or other legislative bodies on current legislative programs. Seminar sessions are held to discuss and analyze the problems with which the interns are working. May be repeated for a total of 12 credits. PREREQUISITE: Permission of the department. [2207-5]

6305. Soviet Government and Politics. (3). Organization and function of the authoritarian state, with emphasis on the role of the Communist Party and ideology. [2207-1]

6306. Contemporary Latin American Politics. (3). A study of contemporary problems in Latin American politics and inter-American relations. [2207-1]

6307. Government and Politics of Communist China. (3). A study of the institutions of government, the political process, political elites, political groups and political socialization of Communist China. [2207-1]

6309. Comparative Political Parties. (3). A comparative study of political parties and party systems in selected countries. [2207-1]

6311. Comparative Political Elites. (3). A comparative study of political elites in selected political systems. [2207-1]

6313. Comparative Public Policy. (3). The comparative study of the formation and implementation of major substantive areas of public policy in selected countries. [2207-1]

6399. Research and Studies Abroad. (1-6). Supervised field research and studies in selected foreign countries. May be repeated up to 6 hours. [2207-8]

6401. Modern Political Ideologies. (3). A study of major ideologies of democracy, communism, and fascism as well as capitalism, socialism, racism, and nationalism, and ideologies of the developing or "third" and "fourth world" nations. [2207-1]

6403. Contemporary Protest Thought. (3). Political theories of recent and contemporary protest. The subject matter varies according to what currently excites political protest, but recent topics have included the political elements of black protest, the new left, the new right, women's liberation, ecology and energy, and consumer's movements. [2207-1]

6405. American Political Thought. (3). An analysis of political thought in the United States from the colonial to the present time, with emphasis placed on the relation between political thought and political institutions and practices. [2207-1]

6407. Black Political Thought. (3). An analytical survey of black political thought from the colonial period to the present. Emphasis is placed upon recent and contemporary thought. [2207-1]

6501. Contemporary Problems in International Politics. (3). A study of contemporary problems in international relations. [2210-1]

6502. Soviet Foreign Policy. (3). Basic concepts about Soviet foreign policy; development and techniques; present patterns of Soviet relations with key nations; major problems in future relationships. [2207-1]

6503. Inter-American Relations. (3). Study of diplomatic relations among the nations of Latin America and with the United States. Regional organizations and relations with Cuba are given special attention. [2210-1]

6504. International Law. (3). An analysis of the nature, scope, duties, rights, and evolutionary trends of international law. [2210-1]

6505. Comparative Communist Systems. (3). A cross-national comparison of the adaptation of ruling and non-ruling communist parties to different political environments. Includes examination of inter-party and the intra-block relations. [2207-1]

6506. Problems in American Foreign Policy. (3). A study of American foreign policy problems taken from specific areas or issues of policy. [2207-1]

6507. Problems of European Politics. (3). A study of selected political problems of European states. [2207-1]

6508. Theories and Concepts in International Politics. (3). A survey of theoretical approaches to the study of international politics. [2207-1]

6509. Comparative Foreign Policies. (3). A comparison of the foreign policies of major factors (nation-states, groupings such as the oil-producing nations of OPEC, and other entities) in world politics. [2207-1]

6602. Public Finance Administration. (3). Detailed study of administrative and political problems of fiscal policy, the budgetary process, and fiscal controls. [2102-1]

6603. Public Personnel Administration. (3). The study of policies, methods, and techniques utilized in public personnel administration. Special attention is given to problems reflecting contemporary demands upon personnel organizations. The capacity to analyze problems, select the most effective means of dealing with them and plan appropriate courses of action is developed through case example. [2102-1]

6604. Problems of Public Administration. (3). An investigation of selected problems in the administration of public functions, with emphasis upon contemporary developments. [2102-1]

6611. Administrative Law. (3). Study of the role and nature of administrative law, including procedural requirements and judicial review of administrative actions and the liability of the government for torts and breach of contract. [2207-1]

6615. Comparative Administration. (3). Investigation of administrative structures, functions, and controls in selected developed and developing nations. [2207-1]

6625. Intergovernmental Relations in the United States. (3). Interdependencies and relations between governmental structures and organizations in the American system, with special emphasis on problems of conflict and coordination. [2207-1]

6705. Special Topics in Public Issues. (1-3). Topics of current significance in public issues. May be repeated for a maximum of 6 hours credit. [2207-1]

6801. Science and Politics. (3). An analysis of some of the multiple interactions between the political systems and scientific and/or technological developments. The major objective is to explore the complexities surrounding the relationship between public policy and science, as exemplified in government decisions and actions regarding the support, use and control of scientific research and applied technology. [2207-1]

6802. Sex and Politics. (3). Legal and political rights and duties of both sexes and the relationship of government to various types of sexual behavior. [2207-1]

7100. Seminar in Methods of Political Science Research. (3). An overview of the process of political science research: selection and formulation of the problem, design of the research, methods of investigation, analysis and interpretation of data. [2207-1]

7101. Empirical Political Theory. (3). An in-depth study of the philosophy of science, theory-building, and the various general as well as middle-range theories in political science including system theory, structural-functioning theory, communication theory, decision-making theory, game theory, and mathematical modeling in political science. [2207-1]

7109. Political Inquiry and Participation. (3). Political science education materials and concepts. Acquisition and transmission of key political science concepts and cognitive skills. [2207-1]

7201. Seminar in U.S. Political Institutions. (3). Development of major political institutions in the United States. [2207-1]

7212. Seminar in Constitutional Problems. (3). Problems in contemporary constitutional law. [2207-1]

7213. Seminar in Public Policy Analysis. (3). Empirical and normative analysis of public policy at the local, state, national, and international levels. Emphasized are the theories, literature, and methodologies current to this field. PREREQUISITE: POLS 6101 or equivalent. [2207-1]

7216. Seminar in Political Behavior. (3). Theories, methods, and the findings of the behavioral approach in political science. [2207-1]

7224. Seminar in Urban Problems. (3). Problems inherent in the growing urban developments in the United States. The governmental organization of metropolitan areas and the difficulties of coordination of government functions. Proposed remedies and the reception of new approaches in selected metropolitan areas. [2214-1]

7225. Seminar in Problems in State Government. (3). Selected policy making processes and policy problems arising from the operation of legislative, administrative, and judicial machinery. Special attention will be given to Tennessee. [2207-1]

7301. Seminar in Comparative Political Institutions. (3). Comparative study of the development of political institutions in a variety of foreign governments. [2207-1]

7302. Seminar in Comparative Politics. (3). Selected problems in comparative politics. [2207-1]

7303. Seminar in Political Development. (3). Comparative study of the process of political change in traditional developing nations. [2207-1]

7401. Seminar in Selected Topics in Political Theory. (3). Selected topics involving the development of political thought. May be repeated for a maximum of 6 hours credit. [2207-1]

7501. Seminar in International Politics. (3). Selected problems in international politics. [2210-1]

7502. Seminar in National Security Policy. (3). The defense policy of the United States and selected foreign powers. The national security process, strategic theory and doctrine, and civil-military relations are treated. [2207-1]

7600. Seminar in Administrative Theory. (3). Significance of public administration in American government, includes an introduction to formal organization theory and bureaucracy, decision-making theory, leadership and motivational theory, and current trends and problems in the study of public administration. [2207-1]

7601. Methods of Problem Solving in Public Administration. (3). Introduction to models, theories, and techniques of problem solving in public administration, including the application of systems theory, structural-function analysis, rational and incremental decision theories, models of public policy analysis, group theory, elite theory, and simulation. PREREQUISITE: POLS 4101 or PQLS 6101 or permission of the instructor. [2202-1]

7603. The Politics of Employee Organizations and Collective Bargaining in the Nonprofit Sector. (3). Employee organizations and the development of collective relations in the public and hospital sectors. Special topics include unions and management wage policies, collective negotiation and bargaining, and the evaluation of the impact of unionization on public policy and union relations in the nonprofit sector. [2102-1]

7605. Seminar in Politics and Administration. (3). Explanation of problems stemming from the relationships of politics and administration, stressing relevant analytical approaches and research methods. [2102-1]

7608. Comparative Public Administration. (3). Seminar on the comparative ecology of administration in selected countries. Analysis of similarities and differences in administrative structures and functions in developed and developing nations; practicalities of cross-cultural transferability of administrative concepts and processes. [2207-1]

7610. Internship in Public Administration. (3-6). Participation in some type of field experience, including a written report critically describing the student's responsibilities. Field experience may result from a supervised internship in cooperating public or nonprofit organizations or from appropriate administrative experience if the student is employed in a public or nonprofit organization. PREREQUISITE: Permission of the department. [2102-5]

7611. Practicum. (3-6). The application of knowledge, concepts and analytical tools to contemporary issues that challenge modern managers. Individuals select special projects to pursue in local public and nonprofit organizations and conduct research on these projects under the guidance of a faculty committee or work with the Institute of Governmental Studies and Research on current problems in public administration. May be repeated for a total of 6 credits. PREREQUISITE: Permission of the department. [2102-5]

7615. Special Problems. (3). May be repeated for a total of six credits. Independent investigation of a research problem or directed readings in a selected area of political science. PREREQUISITE: Permission of instructor. [2007-8]

7621. Health Care Administration I. (3). Analysis of health and medical care systems with reference to public, private and voluntary agencies at local, state, regional, and national levels; emphasis on political forces and administrative roles, relationships, issues and trends. (Designed to orient the administrator to health and medical care systems with which he may work.) PREREQUISITE: POLS 3601 or permission of the Coordinator of Graduate Studies (M.P.A.). [1202-1]

7622. Health Care Administration II. (3). Administrative characteristics of hospitals and health care agencies; management problems of program development; construction of programs; staffing; budgeting and financial management; performance standards; interagency coordination. PREREQUISITE: POLS 7621 or permission of the Coordinator of Graduate Studies (M.P.A.). [1202-1]

7623. Health Care Administration III. (3). An examination of administrative practice as it relates to the planning process in health care delivery; a review of techniques and methods used in partial and comprehensive planning. PREREQUISITE: POLS 3601 or permission of the Coordinator of Graduate Studies (M.P.A.). [1202-1]

7624. Health Care Administration IV. (3). Examination of health organization administration decision-making techniques and methods stressing quantitative approaches. Special reference is made to planning and evaluation methods in health and medical care systems. PREREQUISITE: POLS 7623 or permission of the Coordinator of Graduate Studies (M.P.A.).

7996. Thesis. (3-6). The student must write and defend satisfactorily a thesis on a subject approved by his major professor. [2207-6]

[†]Grades of S, U, or IP will be given.

PSYCHOLOGY

PROFESSOR MILTON TRAPOLD, *Chairman and Coordinator of Graduate Studies*

Room 202, Psychology Building

I. The Department of Psychology offers Ph.D. programs in Clinical Psychology and in Experimental Psychology, an M.A. (terminal, non-thesis) program in Psychological Services, an M.A. (terminal, non-thesis) program in School Psychology, and an M.S. (either thesis or non-thesis) program in General Psychology. All students admitted to one of the Ph.D. programs complete the requirements for the M.S. in General Psychology (with thesis) as part of their Ph.D. requirements. In addition, the M.S. in General Psychology program may be entered as a terminal program.

Admission to each of these programs is handled separately. Each has its own admission criteria, and application must be made for a particular program before an applicant is considered for that program. Any person admitted to one of these programs who desires to transfer to another program within the department must make formal application to that program and will be evaluated competitively against the same criteria and on the same time schedule as all other applicants for that program.

The departmental objective is to educate both experimentally sophisticated professional psychologists and professionally appreciative research psychologists. The orientation of the department is strongly empirical, with a very diverse array of theoretical models and frames of reference represented on the faculty.

II. **M.S./Ph.D. Degree Program**

In these programs the M.S. is preparatory to continuation in the program. In order to be advanced to doctoral study, a student must have satisfactorily completed all requirements for the M.S. (with thesis) at Memphis State, or have completed an

equivalent degree from another institution. Students possessing a master's degree without a thesis will be required to complete a thesis before being advanced to doctoral study.

The M.S. Ph.D. degree program offers training in two broad areas of specialization: Clinical Psychology, and Experimental Psychology. Within the former area, specialized training is available in neuropsychology and child clinical. Within the latter area, more specialized training is possible with faculty who have interests in biopsychology; cognitive processes; developmental psychology; industrial/organizational psychology; learning; neuropsychology and physiological psychology; psychometrics; sensory processes and perception; and social psychology. Students interested in unusual areas of specialization should contact the department to get further information about whether that specialty is possible at Memphis State.

A. Program Admission and Prerequisites

Applicants to the M.S. Ph.D. degree program are evaluated once each year only, for admission in the Fall semester; applicants for Spring admission are not considered. All application information must have been received by March 1 for a candidate to be considered for admission.

Required:

1. A grade point average of at least 2.5/4.0 in all undergraduate course work. Applicants with undergraduate records at this minimum level are not ordinarily admitted. (The average overall undergraduate grade point average of students admitted during the past several years has been approximately 3.5/4.0.)

2. A minimum of 18 semester hours in undergraduate psychology courses, including courses in Quantitative Methods (Psychological Statistics), and Experimental Psychology; undergraduate coursework in Physiological Psychology, Psychology of Learning, and History of Psychology is strongly recommended.

Students lacking some or all of these prerequisite courses, but presenting an exceptional undergraduate record, may be granted graduate admission as regular, or as special, students; they will be expected to remove all undergraduate deficiencies during their first academic year.

3. GRE aptitude (verbal plus quantitative) total scores of at least 1100. Applicants with low test scores will be considered only if other supporting evidence (letters of reference, undergraduate grade point average) is outstanding. (The average scores of all students admitted to the M.S. Ph.D. program during the past three years has been 665 on the GRE verbal, 635 on the GRE quantitative, and 615 on the GRE advanced psychology measure.)

4. Letters of recommendation from at least three persons familiar with the applicant's academic background and aptitude for graduate work in psychology, specifying in detail the applicant's capabilities for graduate study and for future performance as a psychologist.

5. A statement of 500-1000 words indicating the specific graduate program area being applied for, the applicant's present interests and career goals, research and applied interests, and prior research and applied experience. Prior undergraduate research interests and research involvement are weighted heavily.

6. A willingness to be interviewed by members of the department faculty, should that be required.

B. Program Requirements

1. **Credit Hours.** A minimum of 33 semester hours of graduate credit beyond the bachelor degree is required for the M.S. degree in Psychology, and a minimum of 80 semester hours of graduate credit beyond the bachelor degree is required for the Ph.D. degree in Psychology. However, most students in this department take between 90 and 100 credits in courses, seminars, and applied and research practica en route to the Ph.D. degree. All work for graduate credit must be approved by, and must be completed at a level of performance satisfactory to, the graduate faculty of the department. No minor is required; students may take coursework for degree credit outside the department upon prior approval of the graduate faculty of the department.

Students with graduate credits earned at another institution, upon matriculation at Memphis State, may petition to have these credits applied toward their degree requirements at Memphis State. While such credits are not automatically transferred and must be approved by the area faculty, a maximum of 6 semester credit hours earned elsewhere may be applied toward the Master's degree requirements; for transfer students who have attained a Master's degree elsewhere, a maximum of 50 semester credit hours may be applied toward the Ph.D. degree requirements.

Particularly where students are specializing in a professional area, the awarding of the doctorate does not merely attest to the accumulation of the specified number of hours in the classroom but also to the acquisition of sophisticated professional and research skills. The faculty has the responsibility to both the public and the profession of psychology to award this degree only when the student has achieved a satisfactory level of professional and research competencies as judged by the graduate faculty of the department.

2. **Enrollment.** With only rare exception, all M.S./Ph.D. degree candidates are expected to carry a minimum of three courses (9-10 credits) per semester, to devote full time during their enrollment to pursuit of degree-related activities, and to carry a minimum of two courses (6 credits) during the summer if they are on paid summer placements arranged through the Department.

3. **Research.** All M.S./Ph.D. degree students are expected to be active in research collaboratively with members of the department faculty each semester they are enrolled.

4. **Master's Thesis (PSYC 7996) and M.S. Comprehensive Examination.** Each M.S. student is expected to complete an independent research project, culminating in a Master's thesis. Upon completion of the thesis, the student takes an oral examination which assesses not only mastery of the thesis topic but also broader awareness of the theoretical and empirical issues in contemporary psychology. This oral examination serves as the M.S. comprehensive examination.

5. **Major Area Paper (PSYC 8620).** Each Ph.D. student will prepare and submit to a committee of the graduate faculty a pub-

lishable paper on an approved topic of the student's choosing within the student's area of specialization, following the format of the *Psychological Bulletin* or the *Psychological Review*.

6. **Specialty Examination.** Each Ph.D. student will take a comprehensive written, oral and performance examination in the student's major area of specialization in psychology, typically during the third or fourth year of residence.

7. **Comprehensive Educational Program.** In order that all M.S./Ph.D. candidates attain comprehensive training in the diverse areas of psychology, they are required to complete four courses (PSYC 7000, 7001, 7301, and 7302) during the first two years. In addition, all M.S./Ph.D. candidates must complete at least one course in each of the following four areas:

a. Biological Bases of Behavior: PSYC 7701/8701; 7702/8702, 7703/8703, 7704/8704.

b. Cognitive/affective Bases of Behavior: PSYC 7201/8201, 7208/8208, 7210/8210, 7211/8211.

c. Social Bases of Behavior: PSYC 7206/8206, 7215/8215, 7217/8217, 7218/8218.

d. Individual Behavior: PSYC 7104/8104, 7202/8202, 7207/8207, 7412/8412, or for clinical students 7433/8433.

8. **Dissertation and Final Examination (PSYC 9000).** Upon completion of an independent dissertation research project acceptable to the faculty, each student will take a final oral examination oriented toward, but not exclusively on, the student's dissertation research and major area of specialization.

Students in the clinical psychology program are expected to meet these additional requirements:

9. **Required Courses and Activities for Clinical Students.** Students in the clinical psychology program must complete the following courses: PSYC 7431/8431, 7432/8432, 7433/8433, 7434/8434, 7435/8435, 7436/8436. As part of their clinical training, they must also participate in the activities of the Psychological Services Center. Students fulfill this requirement by enrolling in three credits of 7438/8438 annually during their second, third, and fourth years of clinical training.

(a) **Neuropsychology Subspecialty.** In addition to the general clinical requirements, clinical neuropsychology students must complete the following courses: PSYC 7701/8701, 7702/8702, 7703/8703, 7704/8704; nine credit hours of PSYC 7608/8608; nine credit hours of PSYC 7616/8616; and coursework in the areas of neuroanatomy and neuropathology.

(b) **Child Clinical Subspecialty.** In addition to the general clinical requirements, child clinical students must complete the following courses: PSYC 7207/8207, 7801, 7219/8219, 7416/8416, 7417/8417, 7418/8418 and at least one credit hour of PSYC 7610/8610. Further, a major portion of practicum work and at least two of the required projects of Master's thesis, major area paper, and doctoral dissertation must pertain to children.

10. **Clinical Internship.** For students in clinical psychology, a full-time one-year internship, in an agency approved by the director of training in clinical psychology, is required. The internship is begun only when all other academic requirements, except the writing and defense of the dissertation, are completed.

III. M.A. Degree Program in Psychological Services

A. Program Admission and Prerequisites Required:

1. A grade point average of at least 2.5/4.0 in all undergraduate work. Applicants with undergraduate records at this minimum level are admitted only if other supporting data (GRE scores, letters of recommendation) are exceptional. (The average undergraduate grade point average of students admitted during the past year has been approximately 3.3/4.0.)

2. GRE aptitude total (verbal plus quantitative) scores of at least 1050. Applicants with test scores at this minimum level are admitted only if other supporting data (undergraduate record, letters of recommendation) are exceptional. (The average GRE aptitude total scores of students admitted during the past year was 1213.)

3. Letters of recommendation from at least three persons familiar with the applicant's academic background, aptitude for graduate work in psychological services, and interest in a profession as a psychological services worker. Preferably, these letters should come from professional psychologists who have taught or worked with the applicant.

4. At least 18 hours in undergraduate psychology.

It is possible to be admitted to the M.A. degree program in Psychological Services on a full-time or a part-time basis. Those admitted are encouraged to complete the program as full-time students; non-full-time students must take a minimum of six credit hours per semester in this program.

B. Program Requirements (48 credits)

1. **Core courses (18 credits):** PSYC 7801, 7802, 7803, 7804, 7805, 7806.

2. **One elective track (21 credits):**

Elective Track A: Psychological Assessment: PSYC 7104, 7202, 7404, 7405, required plus three of the following courses: PSYC 7302, PSYC 7304, SPER 7000, SPER 7001, or appropriate psychology seminars.

Elective Track B: Community Social Psychology: PSYC 7205, 7206, 7215 required; plus four of the following courses: SOCI 7442, SOCI 7528, SOCI 7852, SOCI 7411, SOCI 7421, SOCI 7522, or appropriate psychology seminars.

Elective Track C: Psychology of the Intellectually Handicapped: PSYC 7216, 7413, 7508 required; plus four of the following courses: SPER 7000, SPER 7001, SPER 7201, SPER 7401, or appropriate psychology seminars.

Elective Track D: Psychological Research: PSYC 7301, 7302, 7305 required; plus four of the following courses: PSYC 7303, PSYC 7304, MATH 6710, MATH 6711, MATH 6713, or appropriate psychology seminars.

3. **Field practicum: Psychological Services (6 credits):** PSYC 7613.

4. **Apprenticeship in Psychological Services (3 credits):** PSYC 7810. (This is a one-half time one-semester apprenticeship placement in an agency requiring 20 hours work per week.)

5. **A specialty examination** in the areas of specialization chosen

by the student is required, and will be taken during the final semester of training.

6. **Participation in required service experiences** in the Psychological Services Center or other agency placements for training purposes is an integral part of the required psychology coursework specified above in the Psychological Services program.

IV. M.A. Degree Program in School Psychology

This program is offered collaboratively with the College of Education, and coursework from both areas is required. Student pursue a Master of Arts degree (or an Educational Specialist degree in School Psychology in the College of Education when the student already holds a master's degree in a related area). The program is accredited by the National Council on Accreditation in Teacher Education (NCATE); also, it is formally approved as a competency-based program by the Tennessee State Department of Education, and leads to State certification in school psychology.

A. Program Admission and Prerequisites Required:

1. A grade point average of at least 2.5/4.0 in all undergraduate course work. Applicants with undergraduate records at this minimum level are admitted only if other supporting data (GRE or MAT scores, and letters of recommendation) are exceptional. (The average undergraduate grade point average of student admitted during the past two years has been approximately 3.2/4.0.)

2. GRE aptitude total (verbal plus quantitative) score of at least 900, or an MAT score of at least 50. Applicants with test scores at these minimum levels are admitted only if other supporting data (undergraduate record, letters of recommendation) are exceptional. The average test scores of those admitted during the past two years have been GRE aptitude total — 1145; MAT — 66.

3. Letters of recommendation from at least three persons familiar with the applicant's academic background, aptitude for graduate work in school psychology, and interest in working with school-age children in school settings; these letters should come from professional educators and/or psychologists.

4. Undergraduate preparation in Psychology and/or Education. It is strongly recommended that applicants have at least 18 undergraduate hours in Psychology and/or Education, with preparation in the psychology of learning, psychological appraisal, measurement, human growth and development, and foundations of education.

It is possible to be admitted to the M.A. program in School Psychology on a full-time or a part-time basis. Those admitted are encouraged to complete the program as full-time student; non full-time students must take a minimum of six credit hours per semester in this program.

B. Program Requirements (45 credits)

1. **Core courses (18 hours):** PSYC 7801, 7802, 7803, 7804, 7805, 7806.

2. **Education courses (18 hours):** EDAS 7100; EDPS 712 EDRS 7541, CIED 7002 are required, additionally, either EDA 7000 or EDAS 7810, and one of the following four courses — SPER 7001, SPER 7201, SPER 7211, or EDPS 7141 — are required.

3. **Seminar in School Psychology (3 hours):** PSYC 7509

4. **Internship in School Psychology (6 credits):** PSYC 7810. (This is a full-time, one-semester internship placement requiring up to 40 hours work per week.)

5. **A specialty examination** covering the School Psychology program competency areas is required of all students, and will be taken during the final semester of training.

6. **Participation in required service experiences** in the Psychological Services Center or other agency placements for training purposes is an integral part of the required psychology coursework specified above in the School Psychology program.

V. M.S. Degree Program in General Psychology

A. Program Admission and Prerequisites Required:

1. An undergraduate grade point average of 2.5/4.0 is generally required. However, if a student has a lower average, she thinks there are extenuating circumstances, the student should attach an explanation to the application.

2. GRE aptitude total (verbal plus quantitative) of 800, or Miller Analogies Test Score of 27.

3. Letters of recommendation from at least three persons familiar with the applicant's academic background and aptitude for graduate work in Psychology.

4. A background in Psychology or related discipline which the faculty judges to be satisfactory to undertake this program.

5. Applications to the M.S. in General Psychology program will be considered throughout the year.

Admission to the M.S. in General Psychology program does not require a student to take any minimum number of credits per semester. The only constraint upon the pace at which the student pursues the degree is that credits more than six years old may not be counted toward the degree.

B. Program Requirements

1. The admission standards for this program are intentionally set below those of the M.S. Ph.D. program so that those students who otherwise would not, may have an opportunity to attempt graduate level work in Psychology. All students in the M.S. in General Psychology program will therefore be evaluated by the faculty at the completion of 15 credit hours of graduate work, to determine if they will be permitted to continue in the program. Students may not register for courses beyond credit hours until they have applied for faculty review and received permission to continue in the program. The first credit hours must include:

(a) PSYC 7301 or equivalent

(b) PSYC 7302 or equivalent

(c) At least one of PSYC 7203, 7206, 7207, 7210, 7211, 7212, 7214, 7215, 7217, 7201

(d) Six additional credit hours of graduate work in Psychology exclusive of field practica, research practica, clinical practica seminars, special topics courses and core clinical courses (7431, 7432, 7433, 7434, 7435, 7436)

At the time a student applies for the 15 hour faculty evaluation, a brief statement of the student's goals and objectives in the M.S. in General Psychology program must be submitted with a list of the courses that are proposed for completion of the requirements for the degree. These courses may be in Psychology or in other departments at Memphis State. They merely have to fit into the student's goals and objectives. When approval to continue in the program beyond the 15 hours is granted, the particular program is also approved. Any subsequent changes in the program must have faculty approval. This program approval process is intended to ensure that students organize programs that are maximally focused upon those goals and objectives which they submitted.

A total approved program of 33 credit hours if the student elects to do a thesis, or 36 credit hours without a thesis.

A specialty examination covering the student's area(s) of focus will be taken during the last semester in the program.

E390 PSYCHOLOGY (PSYC)

000-8000. Issues in General Psychology I. (3). Required of all doctoral degree candidates. A seminar discussion of the basic issues in contemporary psychology within their historical context, with extensive examination of their implications for theoretical and professional applications. [2001-1]

001-8001. Issues in General Psychology II. (3). Required of all doctoral degree candidates. A seminar discussion of the basic issues in contemporary psychology within their historical context, with extensive examination of their implications for theoretical and professional applications. [2001-1]

101-8101. History and Systems of Psychology. (3). An analysis of the philosophical and scientific antecedents of contemporary psychology, including examination of historically and currently important theoretical systems and discussion of problems of conceptualization and theory construction. [2001-1]

104-8104. Psychological Appraisal. (3). A survey of the empirical foundations of psychological assessment. Research on the interpretation and evaluation of a variety of measurement devices will be reviewed. The role of assessment in the modification of behavior will be discussed. [2006-1]

201-8201. Theories of Learning. (3). Examination and discussion of the major contemporary theories of learning. Attention given to the basic assumptions, logical structure, and empirical support for the theories of Spence, Skinner, Estes, and Loran. In addition, briefer consideration is given to theories of considerable historical importance such as those of Guthrie, Oplan, and Hull. [2002-1]

202-8202. Theories of Personality. (3). A survey of major contemporary theories of personality, with particular emphasis on the etiology and treatment of psychopathological states as interpreted within various theoretical frameworks. [2002-1]

203-8203. Behavior Analysis. (3). A comprehensive treatment behavior principles in their application to simple and complex forms of behavior. The course focuses on operant conditioning of animal behavior and demonstrates the basic behavioral principles at work in their simplest form. These operant conditioning principles are extended to human behavior occurring in the natural environment. Increasingly complex human behaviors are successively introduced. [2001-1]

206-8206. Group Processes. (3). Social psychology of groups and organizations including social influence, leadership, and intra- or group behavior. [2005-1]

207-8207. Developmental Psychology. (3). An analysis of the course of development from conception to young adolescence the "normal" individual. Emphasis on developmental methodologies and theories in the areas of physical and motor development, and cognitive and intellectual functioning. [2009-1]

208-8208. Psychology of Perception. (3). An examination of the historical development, research, and major theoretical positions in the area of perceptual psychology. Major emphasis is placed on theoretical and experimental treatment of the basic perceptual phenomena. [2002-1]

210-8210. Psychology of Learning. (3) Examination and discussion of current research, and of theoretical and experimental problems in the area of learning and behavior modification. Topics covered include reinforcement, extinction, motivation, generalization, discrimination, retention, and forgetting. [202-1]

211-8211. Cognitive Processes. (3). Analyses of thinking, conceptualization, language and symbolic activity, and related mental processes in the individual. [2002-1]

212-8212. Industrial Psychology. (3). The application of psychological principles and findings to industrial settings including personnel selection, classification and evaluation, employee attitudes, morale and motivation, and psychological factors in work. [2008-1]

213-8213. Theoretical and Empirical Problems in Psychology. (3). A detailed survey of the philosophical and logical antecedents and problems in psychology as a science, covering such topics as empirical methods in psychology, psychological data analysis, theory construction, probability and inference, and active procedures. [2001-1]

215-8215. Organizational Psychology. (3). The course deals with the major organizational determinants of individual and group behavior and performance. The characteristics of organizational structure and climate are explored from both a classical and a contemporary viewpoint. Organization change and development theories are examined plus the major ancillary theoretical positions on leadership, individual and group performance, behavior modification, selection and training. [2008-1]

216-8216. Behavior Management. (3). Application of the principles of operant-instrumental learning to human behavior in various settings such as educational, rehabilitative and institutional programs. Practical implementation of the principles of behavior analysis and management will be stressed and ex-

pected of the student. PREREQUISITE: PSYC 7203 or equivalent. [2001-1]

7217-8217. Social Psychology I. (3). An examination of the social psychological literature pertaining to the philosophy of human nature issues of the extent to which human behavior is (a) distinct from the behavior of other animals and (b) guided by understanding. Coverage includes such topics as language, aggression, interpersonal attraction, attribution, and self-perception. [2005-1]

7218-8218. Social Psychology II. (3). An examination of the social psychological literature pertaining to the philosophy of human nature issues of the extent to which human behavior is (a) situationally reactive and (b) changeable over time. Coverage includes such topics as trait psychology and situationism, social facilitation, social exchange, conformity, and attitude formation and change. [2005-1]

7219-8219. Social and Personality Development. (3). A general survey of social and personality development from infancy through adolescence. The course consists of three sections: (1) general theoretical perspectives, including intrapsychic, cognitive, and social learning approaches; (2) intra-individual phenomena such as sex role, traits, moral development, etc.; (3) interindividual phenomena such as family interactions, peer interactions, and societal influences. [2009-1]

7301-8301. Research Design and Methodology. (3). The emphasis will be on mathematical and non-mathematical analyses of psychological data, theoretical and experimental implications of different analyses, various data collection techniques, and types of experimental and statistical control. [2001-1]

7302-8302. Quantitative Methods. (3). Statistical inference applied to problems in psychological experimentation. Elementary probability, statistical distribution, classical and nonparametric statistics will be covered. [2007-1]

7303-8303. Multivariate Analysis. (3). Partial and multiple correlation, factor analysis, cluster analysis. Practice in applying these techniques, with emphasis on the logic of such statistical techniques for psychology. [2007-1]

7304-8304. Measurement Theory and Psychometrics. (3). Measurement theory involved in the construction and evaluation of psychological measuring instruments will be stressed. Particular emphasis will be placed on scaling methods and their use in psychological research and evaluation. [2006-1]

7305-8305. Research and Data Collection Methods in Human Psychology. (3). An intensive examination and analysis of methods, techniques and procedures used in the study of human behavior, including interviewing, questionnaires, sociometry, naturalistic observation, and attitude and behavior scaling. [2005-1]

7401-8401. Theories of Psychotherapy. (3). A comparative examination of the principles and techniques of psychotherapy associated with major theorists in this area. Relevant clinical and experimental research will be surveyed to emphasize the similarities and differences between various approaches. [2003-1]

7404-8404. Individual Psychological Assessment. (4). An examination of various psychological techniques for assessing human intellectual, personality, behavioral, and social functioning using both objective and projective tests and other measures. Practicum experiences in simulated and real settings will be emphasized in conjunction with classwork. PREREQUISITE: PSYC 7104-8104 or equivalent. [2006-1]

7405-8405. Observational and Direct Assessment. (3). This course introduces such assessment methods as overt and self-monitored frequency counts of deviant and prosocial conduct. Output measures, sociometrics, and defining rate and quality of social interaction variables will be covered, as will reliability of coding data and various options for specifying behavior. [2006-1]

7412-8412. Psychopathology. (3). A survey of the manifestations of abnormal behavior and psychological processes. Detailed analysis of the clinical and experimental literature concerning psychological and psychiatric disorders and their etiology. [2003-1]

7413-8413. Psychological Intervention with the Handicapped. (3). Analysis of selected systems and concepts leading to an integrated approach to planning appropriate interventions with the handicapped. Emphasis is placed upon the psychological problems encountered by both exceptional children and their families. Approaches to psychological intervention, including counseling are presented. PREREQUISITE: SPER 7000 or equivalent course, or permission of instructor. [2003-1]

7415-8415. Sensitivity Training. (3). To enhance self-awareness and clinical sensitivity through involvement as a participant observer in the development and continuing functioning of a small group. Emphasis will be on emergent styles of interaction in roles, both explicit and implicit, inherent in the group structure. Only pass/fail grades will be given, and the credit is not applicable to any degree in psychology. [2003-1]

7416-8416. Child Psychopathology. (3). A survey of the major theoretical formulations of childhood disorders, including learning, developmental, psychoanalytic and family systems theories. Organic, familial, and sociocultural influences are discussed. Emphasis is placed on basic research that contributes to our understanding of these difficulties. Traditional approaches to intervention are reviewed along with family treatment. PREREQUISITES: Admission to graduate training program in clinical psychology or consent of instructor. [2003-1]

7417-8417. Family Therapy. (3). The theoretical works of several important family therapists and researchers (e.g., Haley, Jackson, Satir) are discussed. Methodological issues and relevant research findings are reviewed. Special emphasis is placed on family interventions with certain childhood problems. A substantial practicum component requires the student to provide therapy to at least one family unit. PREREQUISITES: Admission to the graduate training program in clinical psychology. [2003-1]

7418-8418. Behavior Modification with Children. (3). Applications of learning models to effect behavioral change in children

reviewed from theoretical, experimental, and clinical perspectives. Emphasis on intervening in natural environment and using parents, teachers, and peers in treating problems such as low academic achievement, inadequate social skills, hyperactivity, and child abuse. Practicum required. PREREQUISITES: Admission to graduate training program in clinical psychology or consent of instructor. [2003-1]

7431-8431. Clinical Practice. (4). This first course for graduate students admitted to the training program in Clinical Psychology introduces them to some major conventions, methods, nomenclature, and role definitions and responsibilities of professional psychology, with practicum experience. PREREQUISITE: Admission to the graduate training program in clinical psychology. [2003-1]

7432-8432. Clinical Assessment. (4). Continuing from the exposure to individual testing during the first graduate clinical course, this provides a survey of objective tests and free response diagnostic techniques, including intellectual and personality measures and their administration with practicum experience. PREREQUISITE: Admission to the graduate training program in clinical psychology. [2003-1]

7433-8433. Clinical Psychopathology and Social Deviance. (3). Detailed critical examination of the forms and variations of abnormal behavior, their historical origins and current status with case syndromes with comparison of alternative views of causation; social determinants and boundary conditions; current research evidence and representative problems in the application of concepts of deviancy; guidelines for decision making; relativism of alternative standpoints. PREREQUISITE: Admission to the graduate training program in Clinical Psychology. [2003-1]

7434-8434. Clinical Psychotherapies. (4). A critical theoretical and tactical survey, with practicum, of a range of treatment approaches emphasizing the verbal and relationship psychotherapies. Examination of explanatory assumptions, intervention strategies and methods, spheres of applicability, representative outcome consequences for particular client populations, and implications for transdiagnostic management of clinical clients. PREREQUISITE: Admission to the graduate training program in Clinical Psychology. [2003-1]

7435-8435. Clinical Behavioral Assessment. (4). A survey with practicum, of direct measurement techniques for individual and multiple clients, oriented to treatment and program planning. This includes methods for quantifying stimuli, and data gathering options for diverse response classes of individual and social interaction and performance. PREREQUISITE: Admission to the graduate training program in Clinical Psychology. [2003-1]

7436-8436. Clinical Behavior Therapies. (4). A critical theoretical and tactical survey, with practicum, of a range of behavior treatment approaches. Examination of explanatory assumptions, intervention strategies and methods, spheres of applicability, representative outcome consequences for particular client populations, and implications for the construction of broad-spectrum intervention programs. PREREQUISITE: Admission to the graduate training program in Clinical Psychology. [2003-1]

7437-8437. Clinical Special Topics. (3). Provides advanced conceptual discussion and supervised skill training in a variety of techniques not routinely covered in detail previously, thus amplifying in depth such clinical procedures as neuropsychological group therapy, impulsive techniques, aversion methods, systematic desensitization, the design and execution of broad spectrum composite change programs, "inpatient management", and therapeutic community approaches. (This may be repeated for a total of 9 credits.) PREREQUISITE: Admission to the graduate training program in Clinical Psychology. [2003-1]

7438-8438. Practicum in Clinical Treatment Approaches. (3). Practical experience to students in clinical psychology, permitting them to work under professional supervision for 130-150 hours in the Psychological Services Center. Students conduct intake interviews, administer and interpret psychological tests, and provide therapy. May be repeated for a maximum of nine hours credit. [2001-5]

The following seminars are systematic studies of current topics in the fields listed in the course titles. They may be repeated for a maximum of 9 credits each.

7501-8501. Seminar: General Psychology. (3). [2001-1]

7502-8502. Seminar: Physiological Psychology. (3). [2010-1]

7503-8503. Seminar: Experimental Psychology. (3). [2002-1]

7504-8504. Seminar: Comparative Psychology. (3). [2002-1]

7505-8505. Seminar: Social Psychology. (3). [2005-1]

7506-8506. Seminar: Clinical Psychology. (3). [2003-1]

7507-8507. Seminar: Industrial Psychology. (3). [2008-1]

7509-8509. Seminar: School Psychology. (3). [2009-1]

7510-8510. Seminar: Organizational Psychology. (3). [2008-1]

7512-8512. Seminar: Developmental Psychology. (3). [2009-1]

7513-8513. Seminar: Neuropsychology. (3). [2010-1]

The following research practicum courses are individualized advanced laboratory or field research activities in the areas listed in the titles. They may be repeated for a maximum of 9 credits each.

7601-8601. Research Practicum: General Psychology. (1-3). [2001-5]

7602-8602. Research Practicum: Physiological Psychology. (1-3). [2010-5]

7603-8603. Research Practicum: Experimental Psychology. (1-3). [2002-5]

7604-8604. Research Practicum: Comparative Psychology. (1-3). [2002-5]

7605-8605. Research Practicum: Social Psychology. (1-3). [2005-5]

7606-8606. Research Practicum: Clinical Psychology. (1-3). [2003-5]

7607-8607. Research Practicum: Developmental Psychology. (1-3). [2009-5]

†7608-8608. **Research Practicum: Neuropsychology.** (1-3). [2010-5]

†7610-8610. **Field Practicum: Clinical Psychology.** (1-3). May be repeated for a total of 12 credits. Supervised experience in the use of psychological diagnostic, treatment, or community intervention procedures in various community agencies and facilities. PREREQUISITE: Admission to the graduate training program in Clinical Psychology, or consent of instructor. [2003-5]

†7611-8611. **Field Practicum: Social Industrial Psychology.** (1-3). May be repeated for a maximum of 9 credits. Seminar discussion and supervised experience in the application of basic psychological procedures and principles to social, personnel, and organizational activities in various industrial, military and community settings. PREREQUISITE: Admission to graduate training program in industrial-organizational psychology, or consent of the instructor. [2005-5]

†7614-8614. **Practicum: School Psychology.** (1-9). (May be repeated for a maximum of 9 credits.) The advanced student interested in neuropsychology will receive supervised experience in the use of psychological procedures in educational settings. PREREQUISITE: Admission to graduate training program in school psychology or consent of instructor. [2009-5]

7615-8615. **Special Problems.** (1-3). May be repeated for a total of 6 credits.) Independent investigation of a research problem, or directed readings, in a selected area of psychology chosen in consultation with the instructor. PREREQUISITE: Consent of instructor. [2001-8]

†7616-8616. **Clinical Practicum: Neuropsychology.** (3). May be repeated for a maximum of 9 credits.) The advanced student interested in neuropsychology will receive supervised experience in the use of psychodiagnostic techniques in various community settings. This training will cover the basic diagnostic techniques, specialized diagnostic techniques, and neurological assessment procedures. PREREQUISITE: Consent of instructor. [2003-5]

7701-8701. **Neuropsychology I.** (3). A comprehensive study of the relationships between brain function and behavior. The anatomy and physiology of the nervous system will be reviewed. Major emphasis is on various functional systems of the human brain such as language, learning, attention, activation, and memory. [2010-1]

7702-8702. **Neuropsychology II.** (3). Study of the historical circumstances effecting the development of Neuropsychology, investigation of the various techniques available for assessing central nervous system function, brain behavior relationships, and normative and actuarial data. Major emphasis will be on strategies for assessing cerebral dysfunction and patterns of symptoms. [2010-1]

7703-8703. **Neuropsychology III.** (3). A structural and functional examination of the basic sensory systems. The problems of sensory quality and sensory quantity will be investigated with major emphasis upon human sensory processes. [2010-1]

7704-8704. **Neuropsychology IV.** (3). Examination and discussion of current research in learning as it relates to nervous system function and damage to the anatomical substrates of such function. Major emphasis will be directed at behavioral plasticity and recovery of function following destructive lesions. Other topics include memory, reinforcement, motivation and sensory substitution. [2010-1]

7801. **Human Learning and Development: Principles.** (3). A survey of the psychological theories of human socialization with special emphasis on the empirical foundations of human learning and development. Special focus is on such processes as learning and transfer of training, cognitive and intellectual development and functioning, language acquisition and use, and information processing. [2009-1]

7802. **Human Learning and Development: Applications.** (3). A survey of research techniques for gathering, organizing, and applying scientific data on human learning and development in various settings including educational environments, the family, and within peer groups. Special emphasis is given to such topics as learning dysfunctions, mental retardation, and disruptive behaviors. Practicum activities are required. PREREQUISITE: PSYC 7801. [2009-1]

7803. **Human Intellectual Processes.** (3). An examination of theories and critical research on alternate conceptualizations of human intellect, and of the construction, standardization, reliability and validity of psychological tests of intelligence. Supervised practicum experiences in administration, scoring and interpretation of such measures as the Stanford Binet, WISC, and WAIS are required, with an emphasis on report writing. PREREQUISITE: PSYC 7801 or can be taken as corequisite with PSYC 7801. [2006-1]

7804. **Human Personality and Psychopathology.** (3). An examination of theories and critical research on alternate conceptualizations of human personality and psychopathology, with a survey of current diagnostic terms and categories. Supervised practicum experiences in administration, scoring, and interpretation of such measures as the MMPI, CRI, psychomotor scales, behavioral scales, and projective tests are required, with an emphasis on report writing. PREREQUISITE: PSYC 7802 or can be taken as a corequisite with PSYC 7802. [2003-1]

7805. **Psychological Intervention I.** (3). Supervised training in (a) behavioral analysis of child child, child parent, and child teacher interventions; (b) crisis interventions in clinics, schools, and related settings; and (c) consultation with teachers, families, employers, and social agencies. Interview techniques and client-helper relationships are examined, and practicum activities are required. PREREQUISITES: PSYC 7802 and PSYC 7804. [2003-1]

7806. **Psychological Intervention II.** (3). Classroom instruction and discussion based upon student practicum activities in an educational or clinical agency. Supervised experiences in at least two types of multiple client programs including verbal insight groups, problem solving groups, social skills training groups, child management groups for parents/teachers, career planning groups, and adjustment problem groups. PREREQUISITE: PSYC 7805. [2003-1]

†7812. **Internship: School Psychology.** (3-6). A field placement in a community educational agency during which the student practices acquired psychological procedures and skills on a full-

or part-time basis under intensive professional supervision. May be repeated to a maximum of 12 semester hours applied toward completion of the certification program in school psychology. PREREQUISITE: Admission to the graduate training program in School Psychology and approval of the program coordinator. [2009-5]

†7996. **Thesis.** (3). Independent research for Master's degree. Application for writing a thesis must be filled out on an approved form after consultation with major professor and filed with the Dean of Graduate Studies. [2001-6]

†8620. **Major Area Paper.** (3). Independent investigation of an approved topic of the student's specialization, leading to the preparation of a publishable paper following the format of the *Psychological Bulletin* or the *Psychological Review*. May be repeated for a maximum of 6 hours credit. [2001-8]

†9000. **Dissertation.** (3-9) Independent research for Doctor of Philosophy degree. Application for writing a dissertation must be filled out on an approved form that consultation with the major professor and filed with the Dean of Graduate Studies. [2001-7]

†Grades of S, U, or IP will be given.

SOCIOLOGY AND SOCIAL WORK

PROFESSOR JERRY MICHEL

Chairman

Room 231 Clement Hall

DR. GREGORY V. DONNENWERTH,

Coordinator of Graduate Studies

I. The Department of Sociology and Social Work offers the Master of Arts degree with a major in Sociology.

II. M.A. Degree Program

Graduate students who select Sociology as a major area will consult with the Coordinator of Graduate Studies in the department as to their program of study.

A. Program Admission

Applicants for admission to the program must meet the admission standards of The Graduate School and have at least fifteen hours of undergraduate work in sociology.

B. Program Requirements

1. At least 24 semester hours of the student's course work must be within the Department of Sociology and Social Work.
2. The following courses are required of all majors: SOCI 7110, 7210, 7320, and 6312.

3. All students will be expected to write a thesis (SOCI 7996).

4. It is the responsibility of each student to obtain a copy of "Degree Requirements for Master of Arts in Sociology" from the Graduate Coordinator or the department office. This document will answer most of the student's questions concerning the program and give direction to the student in planning his degree program.

E410 SOCIOLOGY (SOCI)

6211. **Modern Sociological Theories.** (3). European contributions, American developments, recent trends and influences in sociological theory. [2008-1]

6312. **Intermediate Statistics.** (3). Multivariate analysis of social data. Use of computer programs for data management and statistical analysis. PREREQUISITES: SOCI 3311 and 3322, or their equivalent, or permission of the instructor. [2008-1]

6541. **Social Gerontology.** (3). Ageism in sociocultural context; current beliefs, values, and norms regarding aging; structural location of aging in society, and implications of ageism in employment, poverty, private and institutional housing, crime, physical illness and mental illness. [2008-1]

6620. **Human Ecology.** (3). Spatial structure and land use patterns of urban, rural, and fringe areas; city growth, its spatial and communicative extension into suburban and rural areas, and its impact on the economy, values, and social organization of communities. [2008-1]

6730. **Attitude Theory and Measurement.** (3). Basic properties of attitudes; theories of attitude formation and change; attitude-behavior discrepancies. Assumptions and techniques of attitude measurement, including scaling. PREREQUISITES: SOCI 3311, 3322. [2008-1]

6842. **Sociology of Occupations and Professions.** (3). Sociological analysis of the division of labor, occupational groupings, career patterns, and professional associations in modern American society. [2008-1]

7110. **Proseminar.** (3). Review and integration of major propositions, concepts, and methods from the various fields of sociology in their current state. [2008-1]

7120. **Seminar in General Sociology.** (3). A seminar designed to provide students who are non-majors with an overview of the discipline. Acquaints the students with the sociological viewpoint in the analysis of social issues. [2008-1]

7210. **Theory Seminar.** (3). An advanced analysis of recent developments in sociological theory, including the relationship of theory to empirical research. [2008-1]

7320. **Seminar in Methods of Social Research.** (3). A seminar applying student's advanced knowledge of social statistics and the general methodology of social research. Additional consideration of data reduction and data modification, using packaged statistical computer programs. Emphasis on interpretation of research data, and on preparing the research report. [2008-3]

7330. **Seminar in Current Research Literature.** (3). A seminar dealing with current topics of interest in the field. Topics will vary in response to the interests of the students and specialties of the staff. (May be taken twice for three hours credit each time when topic varies.) [2008-1]

7411. **Social Stratification.** (3). This course will examine the theories of Marx, Weber, Warner, Parsons, and Bendix among others; the relationship between class, prestige, life-style, and ideology in cross cultural perspective; and the factors relating to the increase and decrease in rates of social mobility. NOTE: Students who received credit for 7440 will not be able to receive credit for 7411. [2008-1]

7421. **Racial and Cultural Minorities.** (3). A study of the empirical and conceptual aspects of minority status as determined by racial and cultural criteria. NOTE: Students who received credit for 7810 will not be able to receive credit for 7421. [2008-1]

7442. **Sociology of Poverty.** (3). Patterns of wealth and income inequality in contemporary society. Consequences of poverty for society and individuals in various institutional contexts. Critical evaluation of traditional theories of poverty and contemporary alternatives. [2008-1]

7511. **Seminar in Deviant Behavior.** (3). A seminar in the sociological approaches to the study of deviance and social disorganization with an emphasis on current sociological theory and research. [2008-1]

7512. **Sociological Analysis of Deviance.** (3). Examination of various substantive areas of deviant behavior analyzed from the sociological viewpoint. Topics include pornography, prostitution, male homosexuality, lesbianism, other forms of sexual deviance, compulsive gambling, drug use, alcoholism and other relevant topics of current importance. PREREQUISITE: SOCI 7511 or permission of instructor. [2008-1]

7522. **Seminar in Crime and Delinquency.** (3). Analysis of collective rule making and rule sanctioning with regard to adult criminality and juvenile delinquency. Specific focus on the empirical and conceptual developments and problems associated with the causation of crime and delinquency. Alternative legal and non-legal responses to crime and delinquency will be examined and evaluated. [2008-1]

7528. **Juvenile Delinquency.** (3). Historical background for the establishment of juvenile courts in the United States; theories of juvenile delinquency; methods of treating and preventing delinquency. [2008-1]

7611. **Population Seminar.** (3). Population theories and policies; their definition and history. Trends in population growth; methods of population analysis, and trends in fertility and mortality. Emphasis on fertility, morality, sex and age composition and migration and their influences on population change. NOTE: Students who have received credit for 6610 will not be allowed credit for 7611. [2008-1]

7612. **Techniques of Population Analysis.** (3). An analysis of the sources of population data and the techniques for utilizing these data in population research and in other forms of social research in which population data are a meaningful part. NOTE: Students who received credit for 7610 will not be able to receive credit for 7612. [2008-1]

7631. **Urban Theory Seminar.** (3). A seminar in sociological theories of urbanism and urbanization. Analysis of both historical and contemporary theories. NOTE: Students who receive credit for 7413 will not be able to receive credit for 7631. [2014-1]

7721. **Seminar in Collective Behavior.** (3). Emergence of collective behavior, spontaneous collectivities, social movements, social consequences of restrictive collective behavior. NOTE: Students who receive credit for 6720 will not be allowed credit for 7721. [2008-1]

7751. **Social Structure and Personality.** (3). Research and theory relating social structural variables to processes of socialization, personality development, and conceptions of role and self. NOTE: Students who received credit for 7712 will not be able to receive credit for 7751. [2008-1]

7811. **Formal Organizations.** (3). The relationship between organizational structure, ideology, and interaction pattern. NOTE: Students who received credit for 7460 will not be able to receive credit for 7811. [2008-1]

7830. **Seminar in the Family.** (3). An advanced course in the study of the family which is primarily concerned with research findings in the area of family disorganization, changes in family structure and function, parent-child interaction, working mothers, and problems of aging. NOTE: Students who receive credit for 7420 will not be able to receive credit for 7830. [2008-1]

7851. **Medical Sociology.** (3). Social meaning of disease, with special emphasis on the cultural, organizational, and behavior contexts of the occurrence and management of disease. [2008-1]

7852. **Sociology of Mental Illness.** (3). Social meaning of mental illness, with special emphasis on the cultural, organizational, and behavioral contexts of the occurrence and management of mental illness. [2008-1]

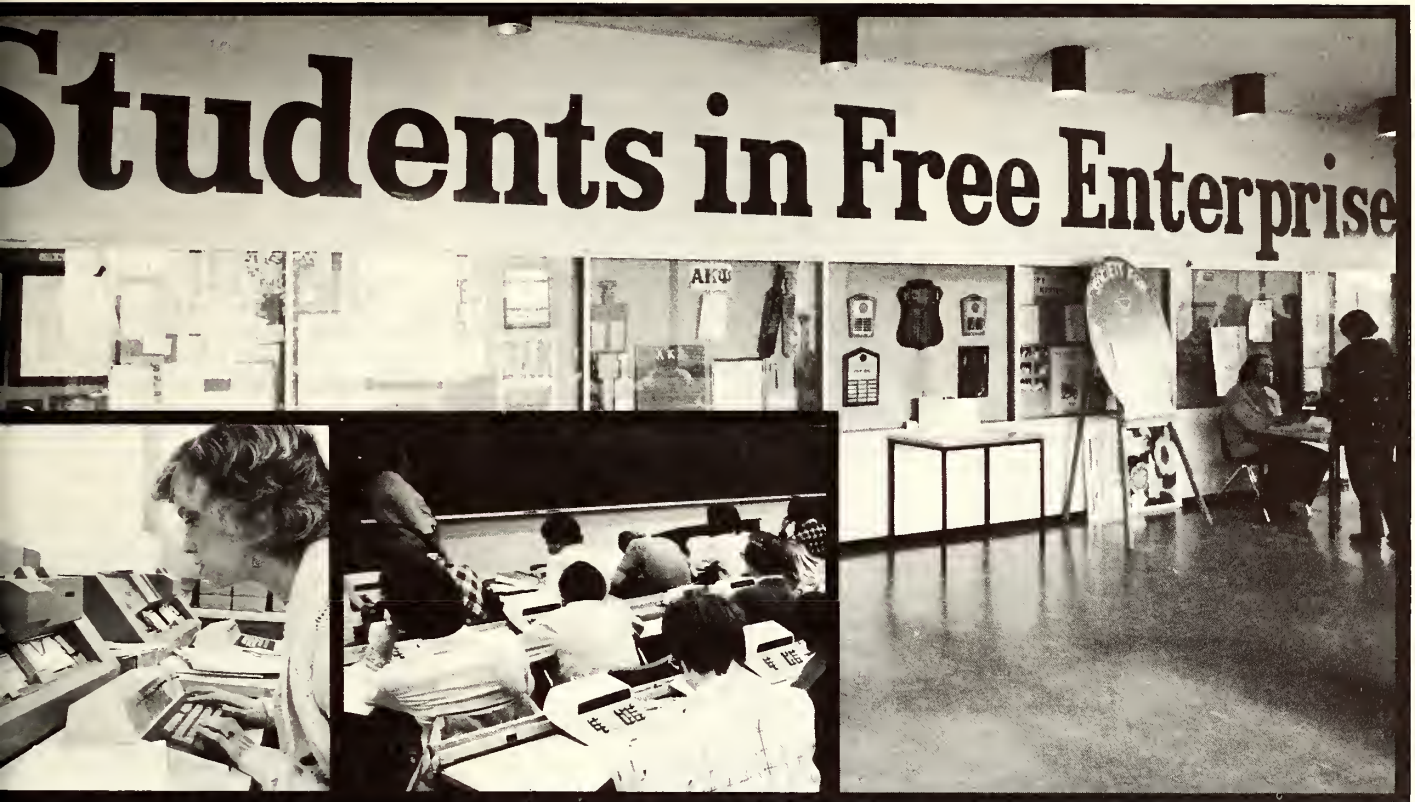
7860. **Seminar in the Sociology of Religion.** (3). A sociological examination of religious institutions; cultural and social factors associated with religious structure, religious values, religious behavior; secularization of culture and change of social structure; analysis of religious organizations, the religious leadership and religious movements. [2008-1]

7912. **Directed Individual Study.** (1-4). Individually directed advanced reading and/or research in special areas of interest. NOTE: Course may be repeated for a maximum of 6 hours credit. PREREQUISITE: Permission of Coordinator of Graduate Studies. [2008-8]

7940. **Seminar in Comparative Social Institutions.** (3). Systematic comparisons of changing institutional structures of various modernizing or highly planned societies. The evolving and variable features of the major institutions — religious, familial, political, economic and occupational — as they appear in different societies. Emphasis on testing the adequacy of theories of social change through cross-societal analysis. NOTE: Students who received credit for 7400 will not be able to receive credit for 7940. [2008-1]

†7996. **Thesis.** (1-6). Supervised research in preparation of advanced degree thesis. PREREQUISITE: The formal filing of a research proposal and outline of procedures acceptable to the student's graduate committee. [2008-6]

†Grades of S, U, or IP will be given.



THE COLLEGE OF BUSINESS ADMINISTRATION

Dean
M. E. BOND, Ph.D.

Director of Graduate Studies,
LEONARD D. ROSSER, D.B.A.

The College of Business Administration is one of the fastest growing centers of business study in the South. M.S.U. offers business student advanced learning a wealth of potential material for research and study. Memphis State maintains extensive facilities for business research, including the Bureau of Business Economic Research, the Center for Power Studies, and the Public Sector Employee-Employer Relations Center, which aid the Memphis area businesses and governmental agencies in many ways through the collection, analysis, and interpretation of business data.

MASTER OF BUSINESS ADMINISTRATION AND MASTER OF SCIENCE DEGREES

The Master of Business Administration degree is open to those who have a bachelor's degree in the arts, science, engineering, law, or to those who are changing their area of concentration in business. The program is designed to provide for professional practice in the field of business and in the field of business education and research. A foundation is pro-

vided for continued growth in any business endeavor or activity. Students in the M.B.A. program may emphasize in one of the following areas of study: accountancy, economics, finance, management, or marketing. A joint M.B.A./J.D. program is also available.

The Master of Business Administration program is specifically designed for students who have earned the Bachelor's Degree from Arts and Sciences, Engineering, Law, or other areas of study, as well as those who hold a Bachelor's Degree in Business Administration who desire to change their area of concentration. Students with adequate preparation in Business Administration and Economics may complete the program in a minimum of three semesters (one calendar year). A period of five semesters is normally required of students who have no undergraduate work in business. The graduate programs of the College of Business Administration are fully accredited by the American Assembly of Collegiate Schools of Business.

The Master of Science degree is available to students desiring a higher degree of specialization than is possible under the M.B.A. program. Students may obtain the M.S. degree in accounting, finance, management or marketing. For requirements,

see Core I following and the individual departments in this section.

Program Admission

Admission to the Master of Business Administration, Master of Arts (Economics), and Master of Science degree programs is granted to graduates of accredited colleges and universities who show high promise of success in graduate business study. Criteria used for admission include the candidate's score of the Graduate Management Admission Test (must be taken prior to admission), undergraduate grade averages and the trend of the grades during undergraduate work, and letters of reference and recommendation.

Applicants whose native language is not English must also present a score on the Test of English as a Foreign Language.

Arrangements for taking the GMAT can be made by writing to GMAT, Educational Testing Service, Princeton, New Jersey 08540. Packets are also available in the Graduate School Office at Memphis State University, and in the Director of Graduate Studies Office, College of Business Administration, Memphis State University.

Qualified applicants may enter the programs at the beginning of any semester.

To assure proper evaluation, application credentials should be received at least 60 days prior to the beginning of the semester in which the candidate wishes to enroll.

Program Prerequisites

Students who wish to pursue the Master of Business Administration or the Master of Science (accounting, finance, management, or marketing) degrees must have completed or complete satisfactorily the proper background courses. Core I below lists the required prerequisites. Students deficient in background courses must remove the Core I deficiencies and any departmental deficiency requirements. It is strongly recommended that such students make an appointment with the Director of Graduate Studies, College of Business Administration, for individual counseling — particularly to select the specific department which will be the student's "area of concentration."

CORE I	CREDITS
Fundamentals of Accounting (ACCT 2010 and 2020).....	6
Principles of Economics (ECON 2110 and 2120).....	6
Basic Marketing (MKTG 3010).....	3
Business Finance (FIR 3410).....	3
Business Statistics (MGMT 2710 and 2711).....	6
The Legal, Social, and Political Environment of Business (FIR 3130).....	3
Organization and Management (MGMT 3110).....	3
Data Processing Systems (MGMT 2750).....	3
TOTAL	33

Graduate students seeking the M.S. degree must also have completed an undergraduate course in Business Policy or include MGMT 7410—Seminar in Business Policy in either their major or minor areas.

If the prospective graduate student does not have an undergraduate degree in Business, but meets the entrance requirements for the graduate school given below, he may complete the required background courses with the 24 credits of the ALTERNATE CORE I:

ALTERNATE CORE I	CREDITS
Fundamentals of Accounting (ACCT 7001).....	3
Proseminar in Economics I (ECON 7010).....	3
Basic Marketing (MKTG 7001).....	3
Business Finance (FIR 7010).....	3
Survey of Statistical Methods in Business and Economics (MGMT 7011).....	3
Business Environment and the Law (FIR 7011).....	3
Advanced Organization and Management (MGMT 7000).....	3
Data Processing Systems (MGMT 7050).....	3
TOTAL	24

Program Requirements (M.S. and M.B.A.)

For the M.S. degrees in accounting, finance, management or marketing see the appropriate department in this section.

Each candidate for an M.B.A. degree must complete a minimum of 33 semester hours of course work and pass a written and/or oral examination. The 33 graduate credits comprising the M.B.A. program (Core II) are distributed as follows:

CORE II	CREDITS
Required Courses	
Economics 7020	
Pro-Seminar II.....	3
Management 7420	
Quantitative Methods for Business Decisions.....	3
Accounting 7010*	
Cases and Problems in Decision Making.....	3
FIR 7610	
Analysis and Control of Business.....	3
Marketing 7012	
Marketing Structure and Administration.....	3
Management 7410	
Seminar and Business Policy**.....	3
And one of the following:	
Marketing 7015	
Research Methodology.....	3
Economics 7140	
Business and Economic Research.....	3
Office Management 7530	
Executive Communications.....	3
Area of Concentration: The areas of concentration are listed in the chart at the end of this section. Courses may be selected from one of these areas with the approval of the major advisor.....	12
CORE II TOTAL	33

At least 27 of the 33 hours required must be in courses designated for graduate students only (7000 level or above) exclusive of Alternate Core I prerequisites.

*Candidates with more than 18 hours of Accounting must substitute Accountancy 7310, Managerial Cost Analysis.

**To enroll in MGMT 7410, a student must have satisfactorily completed a minimum of 12 semester hours of Core II courses.

BUSINESS EDUCATION AND OFFICE MANAGEMENT

The Department of Business Education and Office Management offers graduate programs leading to the Master of Education, Master of Science, Education Specialist, and Doctor of Education degrees. For program admissions, prerequisites, and degree requirements, see the department in this section.

MASTER OF ARTS

The Department of Economics offers a graduate program leading to the Master of

Arts degree. For program admissions, prerequisites, and degree requirements see the department in this section.

POST MASTERS DEGREE Doctor of Business Administration

The Doctor of Business Administration (DBA) is offered by the College of Business Administration with a major in Business Administration and a concentration in one of six areas: Accountancy, Applied Economics, Finance, Management, Management Science, and Marketing. Two or more minor fields and a nine hour interdisciplinary common core are required of all students.

Program Admission

Persons meeting the general requirements for admission to the Graduate School for doctoral level programs shall be eligible to apply for admission to the D.B.A. program.

Admission to the D.B.A. program must be granted to qualifying applicants who show high promise of success in and benefits from doctoral business study. The principal criterion for admission is evidence of superior achievement in prior academic work, coupled with outstanding promise of potential for future contributions as a management scholar. The Admissions Committee in the College of Business Administration, composed of members of the Graduate Faculty and chaired by the Associate Dean and Director of Graduate Studies, shall review and evaluate each applicant. Criteria used in evaluation include the applicant's:

- (1) Prior academic record — applicant's prior graduate grade point average on the M.B.A. equivalency should be 3.40 or higher (on a 4.0 basis).
- (2) Testing — generally, applicants will be expected to present a satisfactory score on the Graduate Management Admission Test.
- (3) Recommendations — letters of recommendation from those qualified to judge such as former professors, colleagues and/or higher level executives.
- (4) Interviews — applicants will be requested to submit a written statement of career plans and objectives, the benefit to be derived from doctoral level study and to appear before the Admissions Committee for a personal interview.

In addition, the Admissions Committee shall consider the applicant's record of employment at increasing levels of responsibility and requires a current resume.

After a student has been admitted, or she will be assigned to a Program Committee composed of three faculty members. The Committee chairman will be chosen from the department of concentration and one member each from the selected minor fields. The Program Committee shall be responsible for approving the program requirements for the student and for guiding, advising, and monitoring the progress of the student throughout the program of study.

Residency

A minimum of thirty (30) semester hours of doctoral course credits, exclusive of credit relative to prerequisites, areas of competency, and dissertation, must be completed at this university.

All students enrolled in the doctoral program must successfully complete all course work, written and oral examinations within five (5) calendar years from initial enrollment in doctoral courses.

All students enrolled in the doctoral program must enroll in and successfully complete a minimum of 15 semester hours of course work within the last two regular semesters prior to registration for dissertation credits. In addition, one of the following options must be completed during each of the last two regular semesters:

(1) Teach six (6) semester hours under supervision as a graduate assistant;

(2) Perform the equivalent of six (6) semester hours in research under supervision as a graduate assistant;

(3) Serve an equivalent internship at a significant level in the chosen field of employment—the internship to be under supervision of faculty and a preceptor within the organization.

All candidates must successfully complete all remaining degree requirements within three (3) calendar years from the beginning of the semester following the successful completion of the integrating oral examination.

Program Requirements

A student entering the program with an M.B.A. degree with the appropriate courses in an area of concentration and

electing to concentrate in the same area in the D.B.A. program, may typically be expected to complete the requirements with a minimum of 57 graduate semester hours including 18 semester hours of dissertation. It should be understood, however, that these are minimal and that the program of study prescribed for any particular student may exceed these minimum requirements.

The minimum course requirements consists of 39 semester hours:

(1) Field of concentration requirements — not less than 12 hours.

(2) Minor field of business — not less than 9 semester hours selected with approval of student's Program Committee excluding field of concentration and M.B.A. core requirements.

(3) Minor field inside or outside business—not less than 9 semester hours with approval of student's Program Committee excluding field of concentration and M.B.A. core requirements.

(4) An interdisciplinary core of 9 hours common to all D.B.A. students:

PHIL 8495 Seminar in the Future: Society and Values

MGMT 8610 Seminar in Administrative Theory and Practice

BA 8920 Dissertation Seminar

Comprehensive Examinations

Each student will write comprehensive examinations in the area of concentration and the two minor fields. Comprehensive examinations may not be taken before completing the final semester of prescribed coursework. All exams must be taken in the same semester.

Integrating Oral Examinations

After satisfactorily completing all written comprehensive examinations, each student must pass a general oral examination integrating all work. The student's Program Committee will administer the oral examination.

Dissertation

The dissertation, for which a minimum of 18 hours of academic credit would be earned, typically requires the equivalent of at least one year of full-time study and should be designed as a pragmatic research application in the area of concentration.

Oral Defense of the Dissertation

Upon successful oral defense of the completed dissertation, approval would be indicated by affirmative vote of a majority of the candidate's Dissertation Committee.

FINANCIAL ASSISTANCE

A limited number of graduate assistantships are available to full-time graduate students through the College. For a stipend ranging from \$3,000 for master's candidates to \$5,500 for doctoral candidates, students pay low in-state resident fees and are expected to provide part-time assistance in course preparation and research. Scholarships and loans are available through Student Financial Aid, Memphis State University, Memphis, Tennessee, 38152.

COLLEGE OF BUSINESS ADMINISTRATION GRADUATE ACADEMIC PROGRAMS

Department	Major	Concentrations	Degree Offered
Accountancy	Accounting		Master of Science (M.S.)
	Business Administration	Accountancy	Master of Business Administration (M.B.A.) Doctor of Business Administration (D.B.A.)
Business Education and Office Management	Business Education and Office Management	Business Education	Master of Education (M.Ed.) Master of Science (M.S.)
Economics	Economics		Master of Arts (M.A.)
	Business Administration	Economics Applied Economics	Master of Business Administration (M.B.A.) Doctor of Business Administration (D.B.A.)
Finance, Insurance, and Real Estate	Finance		Master of Science (M.S.)
	Business Administration	Finance, Insurance, and Real Estate Finance	Master of Business Administration (M.B.A.) Doctor of Business Administration (D.B.A.)
Management	Management		Master of Science (M.S.)
	Business Administration	(1) Management (2) Management Science	Master of Business Administration (M.B.A.) Doctor of Business Administration (D.B.A.)
Marketing	Marketing		Master of Science (M.S.)
	Business Administration	Marketing	Master of Business Administration (M.B.A.) Doctor of Business Administration (D.B.A.)
Interdepartmental	Business Administration	Law	Master of Business Administration (M.B.A.)
	Individual Studies	(by contract)	Master of Arts (M.A.) Master of Science (M.S.)

ACCOUNTANCYPROFESSOR JAMES THOMAS THOMPSON
*Chairman**Room 200
The College of Business Administration
Building*DR. GAYLE RAYBURN, *Coordinator of
Graduate Studies*

I. In the Department of Accountancy, qualified students may work toward the Master of Science degree with a major in Accounting, the Master of Business Administration degree, or the Doctor of Business Administration with a major in Business Administration and a concentration in Accountancy.

II. M.S. Degree Program**A. Program Admission**

1. Satisfactory performance on the Graduate Management Admission Test (GMAT)

2. Satisfactory undergraduate grade point average

3. Two (2) letters of recommendation

B. Program Prerequisites

In addition to Core I prerequisites summarized at the beginning of this College section, students should have successfully completed or complete Accounting 3110 and 3120, Intermediate Accounting I and II; Accounting 3310, Cost Accounting; and Accounting 3510, Federal Income Tax I.

C. Program Requirements

1. Each candidate must complete a minimum of 33 semester hours of approved graduate courses. The 33 graduate credits include a minimum of 21 hours in the major (24 if a thesis is written).

2. Accounting 7120, Advanced Accounting Theory; Accounting 7020, Accounting Information Systems; Accounting 7240, Advanced Auditing; and Accounting 7310, Advanced Cost Accounting are required in the major.

3. Nine to twelve semester hours in a collateral area approved by the student's advisor. This will include Management 7410 (Seminar in Business Policy) if an integrating business policy course has not been successfully completed.

4. At least 24 of the 33 credit hours required must be in courses designated primarily for graduate students (7000 level or above).

5. Must pass a written and/or oral examination.

III. M.B.A. Program

See the beginning of this College section for admission, prerequisite, and program requirements.

IV. D.B.A. Program

See the beginning of this College section for admission, prerequisite, and program requirements.

1510 ACCOUNTANCY (ACCT)

6240. Auditing. (3). Ethics in accounting practices, internal control, auditing standards and procedures, programs of audit of various accounts, construction and indexing of various papers, reports to clients, a practice audit is carried out. **PREREQUISITES:** ACCT 3120, 3310, [0502-1]

6520. Federal Income Tax II. (3). Laws and regulations for corporations, estates, and fiduciaries. Includes a project on tax research. **PREREQUISITE:** ACCT 3510, [0502-1]

6540. Governmental Accounting. (3). Accounting theory and practice applicable to federal, state, and local government; and to nonprofit institutions; budgetary control; classifications, control, and use of funds; financial statements and reports. **PREREQUISITE:** ACCT 2020, Fundamentals of ACCT II; and permission of instructor. [0502-1]

6610. Seminar in Accounting. (3). Impact on financial reporting of the S.E.C. and other regulatory agencies; pension plans and leases; calculation of earnings per share; stock rights, stock options and convertible securities. Current pronouncements of the FASB, CASB, and AICPA committees. Overview of the accounting process and ethics through case studies. Research paper. **PREREQUISITE:** Two senior level Accounting courses. [0502-1]

7001. Fundamentals of Accounting. (3). Accelerated and in depth introduction to the conceptual foundations of accounting. The subject is presented as a dynamic information system for measuring and communicating economic and financial data for planning and control purposes. Primarily for non-business students but is acceptable to remove accounting prerequisites for the M.B.A. and M.S. programs in the College of Business Administration. [0502-1]

7010. Cases and Problems in Decision Making. (3). Accounting analysis for decision making utilizing such managerial accounting tools as cost/benefit analysis, capital budgeting, direct costing, product costing and pricing, variance analysis and other decision-making techniques as well as case studies and/or research projects. **PREREQUISITE:** ACCT 2020, 3010, 7001, or consent of department chairman. Not open to students with more than 18 hours in accounting. [0502-1]

7020. Accounting Information Systems. (3). Planning and operation of electronic data processing systems in accounting; application of quantitative techniques to administrative decision making using accounting data generated by the computer; flow charting of financial and cost data movement; single and inte-

grated electronic data processing systems in accounting. **PREREQUISITE:** ACCT 3120, MGMT 2750 or consent of department chairman. [0502-1]

7120. Advanced Accounting Theory. (3). Broad aspects and objectives of accounting with emphasis on modern accounting trends, and contemporary controversial topics and the influence of professional accounting societies and regulatory agencies upon the accounting profession. Research related to changing concepts. **PREREQUISITE:** ACCT 3120, 3310, 4610, or 6610, or permission of the instructor. [0502-1]

7220. Consolidated Financial Statements. (3). Consolidated financial statements, business combinations, international accounting. **PREREQUISITE:** Two senior level accounting courses. [0502-1]

7240-8240. Advanced Auditing. (3). Review and refinement of generally accepted auditing standards, procedures and extension of auditing procedures; preparation of long form audit reports and study of special investigations; study of auditing research bulletins of the American Institute of Certified Public Accountants, and pronouncements of the S.E.C. and other regulatory agencies. **PREREQUISITES:** ACCT 3120, 3310, 4240-6240. [0502-1]

7310. Advanced Cost Accounting. (3). Budgets, determination of standards, variances and their functions, cost reports, profit projecting, direct costing, gross profit and break-even analysis, cost-profit-volume analysis, capital expenditure control, comparative cost analysis. **PREREQUISITE:** ACCT 3310, [0502-1]

7510-8510. Advanced Taxation. (3). Federal Income Taxation with emphasis on tax planning and research. Selected study of the taxation of business organizations by Federal and state governments; study of tax practice and procedures; extensive case study and library research. **PREREQUISITE:** ACCT 3510, [0502-1]

7540-8540. Governmental and Not for Profit Accounting. (3). Accounting theory and practice applicable to nonprofit institutions and to Federal, state and local government; budgetary control; control of funds; financial statements and reports. Designed primarily for non-accounting majors who are responsible for administration of non-profit organizations. Not open for credit to graduate students majoring in accounting. [0502-1]

7710-8710. Development of Accounting Thought. (3). Readings of the outstanding writers from ancient times through the present. [0502-1]

7910. Problems in Accounting. (1-3). Directed independent reading and research projects in an area selected by the student with the approval of the staff member supervising. **PREREQUISITE:** Consent of the department chairman. [0502-8]

†7996. Thesis. (3-6). Application for writing a thesis must be filled out on an approved form after consultation with the major professor and filed with the Dean of the Graduate School. [0502-6]

8110. Seminar in Accounting Theory. (3). Broad aspects and objectives of accounting with emphasis on generally accepted accounting principles, modern accounting trends, and contemporary controversial topics, through a study of the current releases of the American Institute of Certified Public Accountants, the American Accounting Association, and the Financial Accounting Standards Board, and other research related to changing concepts. Readings in the development and analysis of international accounting principles. [0502-1]

8310. Seminar in Internal Reporting. (3). Theoretical framework of accounting related to decision-making processes of management. Internal accounting and financial management information problems and the planning systems, including quantitative models, budgeting techniques, and controls systems available for use in solving these problems. [0502-1]

8610. Seminar in Public Reporting. (3). Current financial, resource, social and environmental reporting requirements; problems of regulated and public companies in a dynamic and uncertain environment. [0502-1]

8920. Survey in Accounting Research. (3). Historical development and current state of the art regarding accounting research methodology. The various types of accounting research methods which are currently in practice. The analytical techniques for measuring each specific research methodology. [0502-1]

†Grades of S, U, or IP will be given.

BUSINESS ADMINISTRATION

The courses listed below are designated with "BA" numbers in order that they may be available to advanced graduate students with a major in the College of Business Administration. They will be accepted toward the completion of the degree requirements.

1500 BUSINESS ADMINISTRATION (BA)

7900. Practicum in Research. (1-3). Designed to expose the student to actual problem-solving research activities in business and economics. Each student is assigned to a project that is either being conducted currently by a faculty member or one that is developed under the supervision of a faculty member. Whenever possible the project will be within the student's major field of study. **PREREQUISITE:** Advanced graduate student. [0501-1]

8920. Dissertation Seminar. (3). Research design and methodology in administrative sciences. Allows the student to prepare a dissertation proposal, and provides guidance in that effort. Students are expected to present progress reports to other seminar members to critique the progress of fellow students and to acquire skills and knowledge in the area of research design and methodologies. To be taken during the last 12 hours of doctoral course work. [0501-8]

†9000. **Dissertation** (1-12). Independent research for Doctor of Business Administration degree. Application for writing a dissertation must be filled out on an approved form after consultation with the Doctoral Advisory Committee and filed with the Dean of Graduate Studies. [0501-7]

†Grades of S, U, or IP will be given.

**BUSINESS EDUCATION
AND
OFFICE MANAGEMENT**PROFESSOR HERMAN F. PATTERSON,
*Chairman and Coordinator of
Graduate Studies**Room 300A
The College of Business Administration
Building*

I. The Department of Business Education and Office Management offers graduate programs leading to the following degrees: the Master of Education degree with a major in Business Education and Office Management and a concentration in Business Education, the Master of Science degree with a major in Business Education and Office Management, the Master of Art in Teaching, the Education Specialist and Doctor of Education with a major in Curriculum and Instruction and a concentration in Business Education.

II. M.Ed. Degree Program**A. Program Prerequisites**

Bachelor's degree and valid teacher's certificate

B. Program Requirements

1. 18 semester hours in Business Education including BUE 7670 taken during last half of program, and CIED 7002.

2. 9 semester hours in Office Management

3. EDRS 7521, and 3 hours in cultural or psychological foundations of education.

4. Minimum total of 33 semester hours

5. Satisfactory oral examination

III. M.S. Degree Program***A. Program Admission**

This degree is intended for individuals who have an interest working in educational/instructional settings outside the K-12 areas, or who are not working in areas requiring teacher certification, or who have no need to acquire certification. Students must have a G.P.A. of 2.5 (on a 4 point system) and a Miller Analogy Test Score of 27 or a G.R.E. score of 800 for regular admission. Scores below these minimums will be reviewed by the department.

B. Program Prerequisites

Bachelor's degree and six semester hours at upper division graduate level in psychological, historical, sociological, or philosophical foundations of education.

C. Program Requirements

1. Major: 18 semester hours including BUED 7670 and MGN 7050.

2. Core: EDRS 7521.

3. Selectives: 12 semester hours including MGMT 6420 at MGMT 6210 and 6 semester hours taken in supportive work in the College of Education.

4. One additional 3 semester hour course selected on the basis of career goals.

5. Minimum total of 36 semester hours.

6. Satisfactory oral examination.

IV. M.A.T. Degree Program**A. Program Admission**

1. Bachelor's degree with a G.P.A. of 2.5 (on a 4.0 system) and approximately 3.00 in teaching endorsement area or in upper division hours.

2. Miller Analogy score of 41 or GRE score of 900.

B. Program Requirements (for students seeking certification)

1. Minimum of 45 hours required.

2. Major of 27 hours including: CIED 7002 and CIED 7050; student teaching (9 hours); 6-9 hours in business education courses; 0-3 hours of electives in the department supportive to the endorsement area.

3. An additional 9 hours in teaching endorsement area outside the College of Education.

4. EDRS 7521, EDFD 7001, EDPS 7121.

The student must satisfy requirements in General Education and must have met, or will have met upon completion of 1 program, the undergraduate requirements or their graduate equivalents in the field of study in which the student is seeking certification.

V. Ed.S. Degree Program**A. Program Prerequisites**

Master's degree or equivalent.

B. Program Requirements

1. 30 semester hours in Business Education (including master's degree and 6 hours for the thesis or field study)

2. 15 semester hours as follows: EDRS 8521, EDRS B541; hours in cultural or psychological foundations, and one 3-hour elective in the College of Education but outside the major.

CIED 8002, 12 semester hours in Office Management and Business Administration courses, 6 hours of supportive collateral courses inside the College of Education but outside the major.

Minimum total of 66 semester hours with minimum of 9 semester hours from courses numbered 8000 or above.

Satisfactory oral examination

Ed.D. Degree Program

Program Prerequisites

Master's degree or equivalent

Program Requirements

The major will consist of 48 semester hours as follows: CIED 802, CIED 9000 (dissertation), and 33 semester hours in Business Education (including the master's degree).

EDRS 8521, EDRS 8541, EDRS 8542 and 9 semester hours cultural and/or psychological foundations of education.

A minimum of 12 semester hours of supportive collateral side the major department but within the College of Education.

21 semester hours in Office Management and Business Administration courses.

Minimum of 99 semester hours with minimum total of 21 semester hours from courses numbered 8000 or above.

Satisfactory written, oral and dissertation examinations

CATE does not accredit programs for non-certified personnel programs in higher education.

1580 BUSINESS EDUCATION (BUED)

20-8620. Organization and Supervision of Vocational Business Education. (3). (Formerly Administration and Supervision Vocational Education.) Office occupations programs with special emphasis on types of curriculums, production laboratories, and cooperative programs. Classroom supervision, physical layout, administration of programs, and utilization of clock time. [0838-1]

20-8630. Improvement of Instruction in Secretarial Business Subjects. (3). A critical evaluation of content, visual aids, methods, and testing in typewriting, shorthand and secretarial and office practice courses. [0838-1]

20-8640. Improvement of Instruction in Bookkeeping and General Business Subjects. (3). A critical evaluation of content, visual aids, methods, and testing in bookkeeping and general business subjects. [0838-1]

20-8650. Teaching Office Practice, Office Machines and Suggested-Card Methods in High School. (3). Content, methods and standards for courses in Office Practice in High Schools with special emphasis on the impact of automated Data Processing in the office. [0838-1]

25-8655. Materials and Methods in Vocational Education. Instructional media and aids relating to vocational office education with emphasis on recent developments and research. Particular emphasis is placed on individual instruction techniques for the block-time approach to office education programs. [0838-1]

20-8660. Tests and Measurements in Business and Office Education. (3). Standardized and published tests in business education, of the new trends in testing, application of sound testing theory and techniques to business education with special emphasis on evaluation of skill development, the establishment of realistic office competencies, and the evolution of testing standards. [0838-1]

20-870. Seminar in Business Education. (3). Methods and techniques of evaluating significant research studies and other current business education and related literature and evaluation of progress that has been achieved in the conclusion of such literature to guide practical school use. [0838-1]

20-8710. Workshop in Business Education and Office Management. — (3). An in-depth investigation of selected current topics in Business Education and Office Management and related areas. The course may be repeated with a change in content. The student should consult the *Schedule of Classes* to determine the current topics. [0838-1]

Not more than 9 hours of workshop courses in Business Education can be applied toward a Master's Degree.)

20-8720. Guidance in Business and Office Education. (3). Theory, principles, and philosophy of guidance in business education; relationships of business teacher to school guidance services; special attention directed to the development, scope, and responsibilities for vocational guidance with respect to selection and retention of vocational students. [0838-1]

10-8910. Problems in Business Education. (1-6). Directed independent research projects in an area selected by the student in the approval of the staff member supervising. PREREQUISITE: Approval of supervising teacher and departmental chairperson. [0838-8]

96. Thesis. (3-6). Application for writing a thesis must be submitted on an approved form after consultation with the major professor and filed with the Dean of The Graduate School. [38-6]

10. Analysis of Research in Business Education. (3). Research techniques and findings as exhibited in representative investigations in business education. Emphasis on reading and interpreting research, research findings as implications for solving educational problems, and recognizing potential topics needed future research. PREREQUISITES: EDRS 7521 Introduction to Research and EDRS 7541 Statistical Methods Applied to Education I. [0838-1]

10. Issues and Trends in Business Education. (3). Issues and trends in education that pertain to business as well as those issues and trends that are inherent in business education itself. [38-1]

10. Curriculum Construction in Business Education. (3). Principles of curriculum construction as applied to the business education curriculum, including Federal, state, and local forces that influence the business education curriculum. The course includes a study of basic concepts, criteria to be considered in curriculum construction, the method of conducting a curriculum

study, and the ongoing process of evaluating the curriculum in business education. PREREQUISITE: CIED 7002 Fundamentals of Curriculum Development. [0838-1]

1583 OFFICE MANAGEMENT (OFMT)

6410. Office Management. (3). Modern methods used in office organization and management, scientific office management, office reports, office correspondence, calculating and checking, filing, records retention, duplicating, handling the mail, planning procedures, planning for equipment, office machines, automation, planning for office space, physical working conditions and office layout. [0514-1]

7420-8420. Problems in Office Management. (3). Problems in actuating office employees and controlling the work of the office. Topics: Motivating Office Personnel; Job Evaluation; Recruiting and Training Office Employees; Office Supervision; Standards and Standardization; Quantity and Quality Control; Improving Procedures; Simplification; Office Forms; Measuring and Timing Office Work; Office Manuals; Office Costs and Budgets. [0514-8]

7530-8530. Executive Communications. (3). Methods and techniques of communication are critically examined through the writing of case problems in correspondence with emphasis placed upon principles and correct writing and in reports with importance placed upon the collection, analysis, organization, and presentation of authentic data. Designed for the student who has had no basic study in either business correspondence or business report writing on the undergraduate level. [0514-1]

8410. Office Management Systems and Procedures. (3). Systems approach to decision making in office management. A familiarization with general planning models, concepts of systems theory, and their application to selected office management problems. PREREQUISITE: BUED 7420 Problems in Office Management. [0514-1]

8430. Internship in Office Management. (3). Designed to supplement the theoretical aspects of office management by providing practical experience to students of office management. The student will have an opportunity to observe and participate in a variety of office situations under guidance of practitioners. PREREQUISITE: BUED 8410 Office Management Systems and Procedures. [0514-5]

8540. Advanced Business Communication. (3). In-depth analysis of some major areas relating to the communicating of facts and ideas in business with special opportunity for the development of individual talents. PREREQUISITE: OFAD 3510 Office Communication or BUED 7530 Executive Communication. [0514-1]

†Grades of S, U, or IP will be given.

ECONOMICS

PROFESSOR THOMAS O. DEPPERSCHMIDT
Chairman and Coordinator of Graduate Studies
Room 400
The College of Business Administration Building

I. In the Department of Economics, qualified students may work toward the M.A. degree with a major in Economics, the M.B.A. degree with a major in Business Administration and a concentration in Economics, or the D.B.A. with a major in Business Administration and a concentration in Applied Economics.

II. M.A. Degree Program

A. Program Admission:

1. Satisfactory performance on the Graduate Records Examination (Satisfactory performance on the Graduate Management Admission Test may be acceptable with approval of the Department Chairman.)

2. Satisfactory undergraduate grade point average.

3. Two (2) letters of recommendation.

B. Program Prerequisites:

Students should have successfully completed or complete Management 2710 and 2711, Business Statistics I and II; Economics 3310, Micro-economic Theory; Economics 3320, Macroeconomic Theory. (Management 7011 and Economics 7020 are acceptable substitutes).

C. Program Requirements:

1. Each candidate must complete a minimum of 33 semester hours of graduate course work, 30 hours if a thesis of 6 hours is written. The 33 hours must include a minimum of 21 hours (18 hours if a thesis is written) of approved course work in Economics. The remaining 12 hours, with approval of the Department Graduate Adviser, may be taken in collateral courses.

2. At least 24 of the 33 (or 21 of 30 with a thesis) hours required must be in courses designated for graduate students (7000 level or above).

3. A written comprehensive examination must be passed. An oral comprehensive may be required by the examination committee if the candidate performs satisfactorily on some but not all of the written examination. Proficiency in theory and in degree course work will be expected.

III. M.B.A. Program

See the beginning of this College section for admission, prerequisites and program requirements.

IV. D.B.A. Program

See the beginning of this College section for admission, prerequisites and program requirements.

1520 ECONOMICS (ECON)

6130. Government Regulation of Business. (3). The several approaches to legal and legislative control of business — especially tax laws, commission regulation, and anti-monopoly legislation — are considered in view of the impact of each on industrial operating policy and corporate social responsibility. [0517-1]

6610. Central Banking and Monetary Management. (3). A critical examination of the history and economic function of central banks. Analysis of the role of monetary policy in achieving predetermined objectives, with emphasis on the interrelationships of monetary policy, central banking, and the financial markets. [0504-1]

6810. Introduction to Economic Analysis. (3). An introduction to the application of quantitative techniques of analysis to economic problems, including the identification of meaningful relationships, formulating usable quantitative statements about them, and developing relevant analytical methods of dealing with them. [0517-1]

6820. Introduction to Economic Analysis. (3). A continuation of Economics 6810 with emphasis on the more complex and involved relationships of economic theory. [0517-1]

7010. Proseminar in Economics I. (3). An introduction to economics structured for graduate students without previous coursework in economics. Topics include both microeconomics and macroeconomics: supply and demand, national income, unemployment and inflation, fiscal and monetary policy, consumer behavior, competition and monopoly, income distribution and labor markets, and international trade and finance. Cannot be applied toward the MA degree in economics. PREREQUISITE: Three or fewer hours of undergraduate economics credit, or permission of instructor. [0517-1]

7020. Proseminar in Economics II. (3). An intermediate to advanced study of microeconomic and macroeconomic analysis and literature. Designed for MBA candidates, for non-economics majors as a terminal course in economics, and for transfer students in economics and other economics majors with undergraduate hours deficiencies. PREREQUISITE: Six or more hours of economics, graduate or undergraduate. (Economics majors, permission of the department chairman.) [0517-1]

7040. Economic Theory With Legal Applications. (3). Introduction to the tools of economic analysis; property rights; contracts; crime and enforcement; market imperfections and market intervention; labor, unions and employment practices; information and decision theory. [0517-1]

7110. Managerial Economics. (3). Economic rationale underlying key management decisions. Managerial problems are identified and examined in the light of relevant economic concepts, and remedial action is plotted on the basis of economic logic. PREREQUISITES: ECON 3310 and 6810 or equivalent. [0517-1]

7120. Economic Fluctuations and Forecasting. (3). The recent theory and history of the dynamics of economic activity, especially with reference to economic recessions and inflations, are surveyed and used as a basis of the analysis of the several methods of economic forecasting. Examples of each are examined. [0517-1]

7130. Industrial Organization. (3). Historical analysis of the structure, conduct, and performance of the major industries with oligopolistic market structures. Review of antitrust policy, the economics of public utilities, and government promotion and regulation of competition. PREREQUISITE: ECON 7020 or equivalent or consent of instructor. [0517-1]

7140. Business and Economic Research. (3). Basic research techniques and their application to business and economic problems. Attention to both primary-source and secondary-source study approaches. Critical evaluation of selected sample studies. PREREQUISITES: Statistics and College Algebra. [0517-1]

7291. Manpower I. (3). Traces the development of manpower theory from its beginning in Western culture through present policies and legislation in the U. S. Emphasis given to the industrial revolution, great depression, recent urban migration, changing technology, and recent manpower legislation. PREREQUISITE: Consent of the instructor. [0506-1]

7292. Manpower II. (3). The economics and sociology of labor force participation within the theoretical framework of economics and sociology. Examination of the literature made with regard to social, educational, and demographic variables as they relate to participation. The labor force within the context of price and employment policy. PREREQUISITES: ECON 7291 or consent of the instructor. [0506-1]

7293. Manpower III. (3). A survey of published human resource data and survey methods with emphasis upon theoretical concepts involved in measurement and analysis. An examination of the major concepts of labor productivity and their application. Preparation of the student for writing a thesis is implicit. PREREQUISITES: ECON 7291 or consent of the instructor. [0506-1]

7310-8310. Microeconomic Theory and Application. (3). Neoclassical and non-neoclassical micro theories of economic behavior with applications. An advanced study of the economics of the firm and price theory, with an emphasis on developing an ability to apply the tools of microeconomic theory to the firm. Emphasis on methodological significance of alternative theoretical formulations and the meaning and empirical interpretation of theoretical assumptions and conclusions. Topics include: demand and supply theory, identification of real-world demand and supply functions, profit maximization under both competitive and non-competitive conditions, production theory, and income distribution theory. PREREQUISITE: ECON 3310 or 7020. [0517-1]

7320-8320. Seminar in Macroeconomic Theory and Application. (3). Recent contributions to the applied literature of macroeconomics will be covered in seminar fashion. Emphasis in the readings on articles applying theoretical macro equilibrium models to current topics of interest to economists and to those in other disciplines such as sociology, psychology, political science and researchers in education. PREREQUISITE: ECON 3310 or 7020. [0517-1]

7350. International Monetary Theory and Policy. (3). International capital movements, long term and short term, in terms of shifting trade flows and the changing world conditions that affect them. Attention to the instruments and institutions of international investment as well as to their domestic economic and monetary impact. [0513-1]

7410. Foundations of Economic Thought I. (3). A critical study of the earlier origins of economic thought, the emergence of classicism and the several dissident schools that appeared in the century and a half following the appearance of classicism. [0517-1]

7501. Location Theory. (3). An analysis of general problems of the spatial structure of the economy, especially in terms of the location of industry and households and the effect of location activity on the utilization of resources. Directed toward the exploration of the process of locational decision-making under conditions of certainty, risk and uncertainty. PREREQUISITE: ECON 7020 or equivalent, or instructor's permission. [0517-1]

7510. International Economic Growth and Development. (3). Structure, costs and benefits of modern economic growth and its impact on the developing countries. Alternative growth and development strategies under the constraint of limited natural resources. PREREQUISITE: ECON 7020, or equivalent, or consent of instructor. [0517-1]

7520. Urban and Regional Economics. (3). Tools of economic analysis as they apply in subnational regional settings. Topics include: central place theory, economic base analysis, regional input-output analysis, spatial aspects of comparative advantage and trade, the economic problems of cities: poverty, racial discrimination and crime. PREREQUISITE: ECON 7020 or equivalent or permission of instructor. [0517-1]

7611. Monetary Theory and Policy. (3). Monetary theory with particular emphasis on the current controversies in the field and their implications for policy. Recent contributions carefully examined and evaluated. PREREQUISITE: ECON 3320 or equivalent. [0517-1]

7620. Fiscal Theory and Policy. (3). Theory relating to the use of government taxing, spending and borrowing powers to affect the level of national income. Recent thought carefully examined and evaluated, and particular emphasis on the current controversies relating to policy implications. [0517-1]

7720. Seminar in the Economics of the Public Sector. (3). Emphasis on: the production of public goods; financing of public goods; and the problems created by a federal fiscal system. Current problems and policy decision. Public finance theory and policy will be analyzed. [0504-1]

7750. Seminar in State and Local Finance. (3). Seminar in state and local finance which deals with an analysis of taxation and public expenditures and the fiscal relationship of intergovernment units. PREREQUISITE: ECON 3320. [0517-1]

7810. Econometrics I. (3). A review of the quantitative methodology necessary for understanding and using econometric models. An introduction to the basic concepts of econometrics, with more simple models conceptualized and computed as a means of illustrating econometric technique. PREREQUISITE: ECON 6810 or equivalent. [0517-1]

7910. Problems in Economics. (1-6). Directed independent reading and research in an area selected by the student with the approval of the staff member supervising. PREREQUISITE: Consent of the Department Chairman. [0517-8]

7930. Seminar in Economics. (3). A general problem area, current in economics, is selected. Individual studies in this area are then pursued with group analysis, discussion, and evaluation at regular meetings. Emphasis is on research technique. PREREQUISITE: Consent of the instructor. May be repeated for credit. [0517-1]

†7996. Thesis. (3-6). Application for writing a thesis must be filled out on an approved form after consultation with the major professor, and filed with the Dean of Graduate Studies. Independent research for the master's degree. [0517-6]

8111. Seminar in Managerial Economics. (3). The application of economic analysis and concepts to managerial decision making in all sectors. The recent literature on linear and non-linear programming, game theory, decision theory, input-output analysis, utility models and capital budgeting are examples of the topics. Students will demonstrate mastery of both the methodology and the applications of the methodology. [0517-1]

8121. Seminar in Economics Forecasting. (3). After careful examination of the literature of general and regional forecasting, the student is required to prepare several comprehensive, specific forecasts. These are presented to and defended before the class. PREREQUISITE: ECON 7120. [0517-1]

8722-24. Problems Seminar in Economics of the Public Sector. (3). Through readings, research, and discussion, the student will analyze the economic implications of public fiscal, monetary or labor policy on the national economy and specifically on the private sector. The political-economic decision-making process will be studied utilizing the appropriate economic analytical tools. PREREQUISITE: ECON 3310 and ECON 3320. [0517-8]

8722. Problems Seminar in Economics of the Public Sector: Fiscal Policy. (3).

8723. Problems Seminar in Economics of the Public Sector: Monetary Policy. (3).

8724. Problems Seminar in Economics of the Public Sector: Labor Policy. (3).

8811. Seminar in Econometric Models and Methods. (3). Construction, estimation, and testing of econometric models. Emphasis on the relationship between economic theory and econometrics. The relevancy of the hypotheses that constitute economic theory is determined by the testing procedures that constitute the empirical science of econometrics. [0517-1]

8931-33. Problems Seminar in Economic Issues. (3). Problems in applied economics centering on one critical issue in a business economy. *Industrial Organization:* an historical analysis of the structure, conduct and performance of corporations in major U.S. industries. *Growth:* a consideration of economic models and variables involved in economic growth of a mature industrial society. *Regional and Urban:* regional social income accounting, industry base analysis and regional input/output

studies are examined. PREREQUISITE: Admittance to the program. [0517-8]

8931. Problems Seminar in Economic Issues: Industrial Organization. (3).

8932. Problems Seminar in Economic Issues: Growth. (3).

8933. Problems Seminar in Economic Issues: Regional and Urban. (3).

†Grades of S, U, or IP will be given.

FINANCE, INSURANCE AND REAL ESTATE

ASSOCIATE PROFESSOR
DONALD A. BOYD, *Chairman
and Coordinator of Graduate
Studies*

Room 492
The College of Business Administration
Building

I. The Department of Finance, Insurance and Real Estate offers the Master of Science degree with a major in Finance; the Master of Business Administration with a major in Business Administration and a concentration in Finance, Insurance and Real Estate; and the Doctor of Business Administration with a major in Business Administration and a concentration in Finance.

II. M.S. Degree Program

A. Program Admission

1. Satisfactory performance on the Graduate Management Admission Test (GMAT)

2. Satisfactory undergraduate grade point average

3. Two (2) letters of recommendation

B. Program Prerequisites

In addition to Core I prerequisites summarized at the beginning of this College section, students should have successfully completed all necessary prerequisites for the advanced course work.

C. Program Requirements

1. Each candidate must complete a minimum of 33 semester hours of approved graduate courses. The 33 graduate credits include a minimum of 21 hours in the major (24 if a thesis is written).

2. Nine to twelve semester hours in a collateral area approved by the student's advisor. This will include Management 7410 (Seminar in Business Policy) if an integrating business policy course has not been successfully completed.

3. At least 24 of the 33 credit hours required must be in courses designated primarily for graduate students (7000 level or above).

4. Must pass a written and/or oral examination.

III. M.B.A. Program

See the beginning of this College section for admission, prerequisite and program requirements.

IV. D.B.A. Program

See the beginning of this College section for admission, prerequisite, and program requirements.

1530 FINANCE, INSURANCE AND REAL ESTATE (FIR)

6011. Law of Taxation and Planning of Estates. (3). A survey course of the law of taxation as applied to the transmission of property by gift or death and its impact upon accumulations of wealth. Estate planning from an individual viewpoint designed to create, maintain and distribute the maximum estate possible. PREREQUISITE: FIR 3011 or consent of the instructor. [0511-1]

6310. Real Estate Law. (3). This course covers law and legal instruments as applied to real estate. It is designed to serve the needs of property owners and those engaged in the real estate business. PREREQUISITE: FIR 3310. [0511-1]

6320. Real Estate Finance. (3). Examination and analysis of the sources of funds for financing real estate transactions including FHA and VA types. PREREQUISITE: FIR 3310. [0511-1]

6330. Determinants in Housing Finance. (3). Consideration of determinants of private and public demand for housing; the relations between construction and economic trends; new town legislation, urban renewal and development, improving environment and housing for low income groups, criteria for assessing public policy, policy implementation; the role of private enterprise in developing, maintaining and improving housing. PREREQUISITE: FIR 3310. [0511-1]

6340. Real Estate Appraisal. (3). This course covers the fundamentals of appraising residential, commercial and industrial real estate. PREREQUISITE: FIR 3310. [0511-1]

6610. Cases in Managerial Finance. (3). Emphasis on application of tools and principles introduced in previous courses to develop up-to-date problem solving techniques. Cases approached from standpoint of top level management and utilize both quantitative and qualitative analysis. PREREQUISITE: FIR 3410. [0504-1]

6720. Operations and Management of Financial Institutions. (3). Financial policies and decision-making peculiar to financial institutions in the United States. Profitable management of funds consistent with adequate standards of liquidity and solvency. [0504-1]

6810. Property and Casualty Insurance. (3). The form and functions of fire, marine, automobile, general liability, and other types of property and casualty insurance with emphasis on

their application to commercial and industrial occupancies. Survey of current underwriting practice. PREREQUISITE: FIR 3810. [0512-1]

6820. Life and Health Insurance. (3). The functions of life and health insurance with emphasis upon the need for insurance and the service of life and health insurance to the American family and community. A study of the mechanics of private and public insurance and annuities. PREREQUISITE: FIR 3810. [0512-1]

6840. Functional Aspects of Property and Liability Insurance Carriers. (3). Company and industry functions other than contract, including rating, ratemaking, reserves, auditing, underwriting, reinsurance, claims, production, engineering, and governmental supervision. PREREQUISITE: FIR 3810. [0512-1]

6860. Employee Benefit Programs. (3). An analysis of the deferred employee compensation plans. Included are pension, profit-sharing, annuity, stock purchase and other incentive retirement plans. Group insurance and Social Security programs are considered. [0512-1]

7010. Fundamentals of Business Finance. (3). An accelerated introductory course to acquaint the student with the basic principles of business finance encountered by the businessman. Course is acceptable for removing the business finance prerequisite for the M.B.A. and M.S. programs in the College of Business Administration. PREREQUISITES: Graduate standing at ACCT 7001 or Principles of Accounting. [0504-1]

7011. Business Environment and The Law. (3). Legal procedure and the law of contract, sales, negotiable instruments, creator's rights, agency, business organizations and property will be considered. Business environmental aspects of court decisions and administrative agencies respecting the regulation of business, taxation, antitrust law, labor law, consumer and environmental protection laws. [0501-1]

7301. Seminar in Real Estate Finance, Investments and Valuation. (3). An investigation of significant current topics in real estate finance, investments and valuation, individual research, and group discussion of recent developments in theory and practice. PREREQUISITE: Consent of the instructor. [0511-1]

7302. The Decision Process in the Development of Commercial and Industrial Real Estate. (3). Analysis of methodologies and market strategies in the evaluation of investments in commercial and industrial land development. To identify, conceptualize, and to execute action programs associated with developing successful real estate projects, industrial parks, warehouse distribution centers, and related land uses. PREREQUISITE: Core I MBA courses or their equivalent, FIR 7301 or approval of instructor. [0511-1]

7410. Investment Theory and Portfolio Management. (3). Introductory graduate level course in the area of investments and portfolio management. Considers qualitative and quantitative risk and return characteristics of various investment opportunities, fundamental valuation models, timing techniques, efficient markets, speculation and hedging, and portfolio theory in practice. PREREQUISITE: FIR 7010 or equivalent. [0505-1]

7610. Financial Management. (3). Analytical tools, concepts and decision rules for acquisition and allocation of funds by a business firm. Topics include: capital budgeting under risk; capital rationing, cost of capital, capital structure, dividend policy, and working capital management. Cases and readings are required. PREREQUISITE: FIR 3410 or FIR 7010. [0501-1]

7620. Current Topics in International Finance. (3). Select problems in international finance, foreign investment and international payments system; gold movements; foreign central banking and international aspects of money markets; impact of international financial cooperation. PREREQUISITE: FIR 3410, ECON 3610, or consent of instructor. [0504-1]

7710-8710. Seminar in Investment Theory. (3). Current literature in investment theory and portfolio analysis. Topics include statistical techniques of analysis, technical analysis, fundamental analysis, investor perceptions, efficient markets, investment of risk measurements, portfolio theory and application and speculative markets. PREREQUISITE: FIR 7410 or consent of instructor. [0505-1]

7720. Current Topics in — (3). An in-depth investigation of selected current topics in Finance and related areas. Topic may change each semester as determined by relevant developments in Finance. The course may be repeated once with a change of content. The student should consult the *Schedule of Classes* to determine the current topic. (Maximum 6 hours credit.) PREREQUISITE: Consent of instructor. [0504-1]

001. SPECULATIVE MARKETS

002. WORKING CAPITAL MANAGEMENT

003. FINANCIAL INSTITUTIONS

7810-8810. Advanced Financial Management. (3). The most significant contributions to the advanced literature on managerial finance. Topics include capital budgeting under risk, capital rationing, cost of capital, capital structure, dividend policy, valuation, and working capital management. [0504-1]

7840-8840. Quantitative Applications for Finance. (3). Statistical and quantitative tools employed in financial decision-making. Statistical techniques include non-parametric statistical regression analysis, discriminant analysis, factor analysis, cluster analysis. Quantitative tools include linear programming sensitivity analysis and non-linear programming techniques such as integer programming, goal programming. PREREQUISITE: MGMT 7420 or the equivalent. [0504-1]

7910-8910. Problems in Finance, Insurance, and Real Estate. (2-4). Directed independent reading and research project in the finance, insurance, or real estate areas selected by the student with approval of the staff member supervising. [0504-1]

†7996. Thesis. (1-6). Candidates desiring to write a thesis must fill out an application on the approved form after consultation with the major professor. The application must be filed with the Dean of Graduate Studies. [0504-6]

8820. Theory and Practice of Financial Management. (3). Study of the more recent advanced literature of managerial finance and its applications. Intensive pursuit of approved individual topics. Oral presentations of research papers and cases. PREREQUISITE: FIR 8810. [0504-1]

830. Capital Markets and Institutions. (3). Application of the theory of finance to the analysis of existing financial markets and institutions. Emphasis on the structure of the market for corporate capital instruments and the effect of capital market movements on financial decisions. [0504-1]

850. Seminar in Finance. (3). Emphasis on current issues in private sector finance. Designed to encourage students in finance to a good understanding of the important theoretical and empirical contributions to the literature. Course will draw on readings and the research projects of individual students. [0504-1]

Grades of S, U, or IP will be given.

MANAGEMENT

ASSOCIATE PROFESSOR THOMAS R. MILLER,
Chairman

Room 202

The College of Business Administration
Building

DR. KENT E. CURRAN, Coordinator of
Graduate Studies

In the Department of Management, qualified students may seek toward the Master of Science degree with a major in Management, the Master of Business Administration with a major in Business Administration and concentrations in Management, and Management Science, Doctor of Business Administration with a major in Business Administration and concentrations in Management or Management Science.

M.S. Degree Program

Program Admission:

Satisfactory performance on the Graduate Management Admission Test (GMAT)

Satisfactory undergraduate grade point average

Two (2) letters of recommendation

Program Prerequisites:

In addition to Core I prerequisites summarized at the beginning of this College section, students should have successfully completed all necessary prerequisites for the advanced course work.

Program Requirements:

Each candidate must complete a minimum of 33 semester hours of approved graduate courses. The 33 graduate credits include a minimum of 21 hours in the major (24 if a thesis is written).

Nine to twelve semester hours in a collateral area approved by the student's advisor.

At least 24 of the 33 credit hours required must be in courses designated primarily for graduate students (7000 level or above).

Must pass a written and/or oral examination.

M.B.A. Program

At the beginning of this College section for admission, prerequisite and program requirements.

D.B.A. Program

At the beginning of this College section for admission, prerequisite and program requirements.

1550 MANAGEMENT (MGMT)

710. Personnel Administration. (3). Employer-employee relationships; job analysis; recruitment, selection, training, transfer, promotion, and dismissal of employees; industrial unrest; wages and policies; employee health, interest and morale; dealing with unions. PREREQUISITE: MGMT 3110. [0515-1]

720. Collective Bargaining. (3). Labor-management relations from the standpoint of collective bargaining contracts. Emphasis is given to the process of negotiating agreements, including procedures, tactics and subject matter. PREREQUISITE: MGMT 3110. [0516-1]

730. Labor Legislation. (3). Historic and philosophic background for labor legislation with emphasis on recent legislation on the labor area and the effect of these laws on social and economic institutions. PREREQUISITE: MGMT 3110. [0516-1]

740. Compensation Administration. (3). Systematic examination of the administration of wage and salary as a tool of management. Through the use of job descriptions, analysis, and valuation methods, instruction is given in the techniques of rationalizing wage structures. Analyses of some of the outstanding considerations which must be taken into account in installing and administering wage programs are made. PREREQUISITE: MGMT 3110. [0506-1]

750. Organizational Behavior in Business. (3). A study of human relations as applied to people at work in all kinds of organizations. Emphasis is placed on the understanding of human behavior and the motivation of employees to work together in better harmony. Topics to be covered include fundamentals of organizational behavior, leadership and its development, organizational environment, and communication and group processes. PREREQUISITE: MGMT 3110. (This course is not open to graduate students in the College of Business.) [0515-1]

760. Production Management. (3). A course devoted to the development of scientific management, organization of the production function, operation and control of production systems, application of the analytical methods of cost analysis; simulation and statistical analysis. Applications of schematic analysis of production will also be covered. PREREQUISITES: MGMT 3110 and MGMT 3110. [0506-1]

6711. Intermediate Statistical Analysis. (3). An in-depth study of business decision making using advanced statistical concepts including additional probability distributions, use of samples and sample design, non-parametric methods, and advanced techniques of analysis through use of correlation analysis and analysis of variance. Computerized statistical programs will be utilized to solve complex problems. PREREQUISITES: MGMT 2750 and MGMT 2711. [0506-1]

6780. Systems Design for Business Activities. (3). Emphasis will be given to computer systems design for typical business applications involving the automation of business activities. This course will concern estimates of computer requirements; organizational arrangement; planning the total system; flowcharting; conversion problems; cost and performance evaluation. The objective is to simulate the middle level executive role in the transition and integration of business operations into computer oriented systems. PREREQUISITE: MGMT 3760. [0705-3]

6790. Management Information Systems. (3). A comprehensive view of the decision-maker's information requirements and the role of current information gathering means and methods. Problems and techniques concerning the design and installation of responsive systems will be examined with special attention to the executive use of the system's products. A systems approach utilizing current planning and control models will be studied through current literature and texts in the computer field. PREREQUISITE: MGMT 2750 and one college level mathematics course, or permission of the instructor. [0506-1]

6810. International Management. (3). Constructed to provide fundamental knowledge of contemporary managerial problems as presented in a foreign-influenced environment. Uniqueness of problems in planning, control, choosing foreign associates, plant location, labor bureaucracy, legal constraints, and trade with foreign governments will be highlighted by text and through discussion of articles from current business periodicals. PREREQUISITE: MGMT 3110 or 7000 and MKTG 3010 or 7001. [0506-1]

7000. Survey of Organization and Management. (3). Examination of the theories of management and organization. Control and its effect on motivation and interpersonal relationships in the various types of organizations will be covered. Managerial techniques and functions will be developed and integrated both from the standpoint of administrative and production management through case studies, current literature, and assigned text materials. PREREQUISITE: Consent of instructor. (Credit will not be given for both this course and MGMT 3110 or equivalent.) [0506-1]

7011. Survey of Statistical Methods in Business and Economics. (3). Various statistical techniques that are appropriate in analyzing business and economic problems in a management framework. For those graduate students who have had little or no previous work in statistics. PREREQUISITE: MATH 1203 or higher and consent of the instructor. (Credit will not be given for both this course and MGMT 2710/2711 or equivalent.) [0517-1]

7050. Survey of Data Processing in Business. (3). An introductory course on the basic principles of business data processing. For those graduate students who have had no previous work in business data processing. PREREQUISITES: MATH 1203 or higher, and consent of the instructor. (Credit will not be given for both this course and MGMT 2750 or equivalent.) [0506-1]

7210-8210. Seminar in Industrial Relations. (3). An in-depth examination of selected problems in labor management relations. Emphasis on an understanding of past practices as well as current trends which relate to present day activities in industrial relations. PREREQUISITE: Consent of the instructor. [0516-1]

7220-8220. Seminar in Human Resources Administration. (3). Problems and issues deriving from movements and trends in the management of human resources caused by changing laws, union activities, and the demands of our culture. The student is required to select one or more recent concepts or problems for intensive study and critical analysis. [0506-1]

7230. Labor Arbitration Theory and Practice. (3). Advanced analysis of labor law and collective bargaining theory on which labor arbitration is based. Legal status and strategy and tactics of labor arbitration. PREREQUISITE: MGMT 6220 and 6230 or equivalent. [0516-1]

7410. Seminar in Business Policy. (3). The development of the top management viewpoint, the basic objective being to develop executive abilities and creative thinking. Selected problem areas of modern business will be explored. Alternative courses of action appraised, and decision-making ability developed. PREREQUISITE: 15 semester hours of CORE II courses. [0501-1]

7415. Management of Small Enterprises. (3). For students who hope to be the owner/president, or other key executive, of a small or privately-owned firm. Highlights the distinctive characteristics, risks, opportunities and rewards inherent in the ownership and management of a small enterprise. Through the extensive use of case analysis, students will focus on the strategic and operational problems of the small and/or privately-owned firm. PREREQUISITE: 12 hours of graduate business administration courses. [0509-1]

7420. Quantitative Methods for Business Decisions. (3). Special study of selected current quantitative problems in this area. Individual studies will be pursued with group analysis and discussion at regular class meetings. PREREQUISITE: Consent of instructor. [0506-1]

7421-8421. Seminar in Organizational Behavior. (3). Individual and group behavior within work organizations. Emphasis is placed on the study of behavioral science concepts and research and their applications to the management of organizations. Individual studies will be pursued with group analysis and discussion at regular class meetings. PREREQUISITE: Consent of instructor. [0506-1]

7422-8422. Seminar in Organizational Theory. (3). Major historical and contemporary theories of organization. Emphasis on the study of organizational structures, principles, techniques, and processes as they relate to the management of organiza-

tions. Individual studies will be pursued with group analysis and discussion at regular class meetings. PREREQUISITE: Consent of the instructor. [0506-1]

7425-8425. Deterministic Models for Management Science. (3). Deterministic models concerned with optimal allocation of limited resources among competing activities. Business applications of linear programming including duality and post-optimality analysis as well as branch-and-bound and network flow methods of integer linear programming. PREREQUISITE: MGMT 7420 or equivalent. [0507-1]

7430-8430. Advanced Quantitative Topics for Business Decisions. (3). An advanced study of management decision-making using various quantitative methods of analysis. Specialized applications of specific foundation courses in management science. PREREQUISITE: MGMT 7425 or 7450 or 7431. [0507-1]

7431-8431. Probability Models for Management Science. (3). Discrete and continuous probability models such as the Binomial, multinomial, Poisson, Exponential, and Normal distributions. Emphasis on the validity of these models for management decision problems. PREREQUISITES: MGMT 4711 and MATH 2321. [0503-1]

7440-8440. Statistical Planning Techniques for Management Decision Making. (3). A coverage of the techniques available to management for collecting and analyzing data for decision making. Various sampling techniques available for collecting and analyzing data. Techniques such as linear and non-linear time-series analysis with particular emphasis on how seasonal patterns affect the individual firm. Two variable conditions (linear and non-linear) as well as multiple and partial correlation analysis. Several of the computerized statistical planning packages available will be studied in detail in order to demonstrate the formulation of business problems for solution on the computer. Emphasis on interpretation and implementation of the results of these statistical computer packages for managerial decision making. PREREQUISITES: MGMT 4711, MGMT 3750, and MATH 1312 or MATH 2321. [0503-1]

7450-8450. Simulation and Analysis of Business Systems. (3). Methods and techniques of digital computer simulation of business systems utilizing knowledge of data processing, statistics, probability and operations research. Areas of applications include inventory systems, production, scheduling, and various other traffic systems that experience waitingline problems. Topics include the methodology of construction computer simulation model, model validation and analysis of results, and a brief look at various simulation languages, such as GPSS and SIMSCRIPT. PREREQUISITES: MGMT 4711, MGMT 3750, and MATH 1312 or MATH 2321. [0503-1]

7460-8460. Business Applications of Decision Theory. (3). Bayesian decision analysis applied to strategic business decisions involving uncertainty. Topics include: (1) prior analysis, (2) posterior analysis, (3) preposterior analysis, (4) measuring subjective probabilities, and (5) measuring preferences. PREREQUISITE: MGMT 7420. [0503-1]

7510-8510. Administrative Strategy and Long-Range Planning. (3). Emphasis on the following: methods of identifying opportunities and risks present in the organization's changing environment; methods of projecting new objectives and operating strategies on the basis of the organization's current strategic posture; techniques for evaluating alternative courses of executive action; the influence of values of managers; the long-run planning process; and measurement and control of results. PREREQUISITE: MGMT 7410. [0506-1]

7520-8520. Seminar in Organizational Change and Development. (3). Diagnosis of problems reducing organizational effectiveness and the techniques for introducing and implementing change in organizations. The theoretical basis of organizational development and the rationale for organizational development. [0506-1]

7530-8530. Seminar in the Development of Management Thought. (3). Historical evolution of management thought designed to enable students to acquire a mastery of the literature in the field. Emphasis on the work of pioneers and major contributions to the development of the discipline of management. [0506-1]

7910. Problems in Management. (1-3). Directed independent research projects in an area selected by the student with approval of the staff member supervising. PREREQUISITE: Consent of department chairman. [0506-8]

7921-8921. Seminar in Management Research. (3). Some of the statistical techniques available to the business researcher. Topics include: contingency tables, bivariate correlation analysis, regression analysis, ANOVA, discriminant analysis, and factor analysis. Use of computerized statistical packages and interpretation of the results of these packages. PREREQUISITE: MGMT 2711 or 7011 or equivalent. [0506-1]

†7996. Thesis. (3-6). Application for writing a thesis must be filled out on an approved form after consultation with the major professor and filed with the Dean of Graduate Studies. [0506-6]

8470. Seminar in Management Science. (3). Advanced knowledge of management science techniques applied to the solution of modern business or administrative problems. Investigation of the research problems will also involve both written and oral reporting of the analysis and decisions concerning the application of management science methods. PREREQUISITE: MGMT 8430 and MGMT 8460. [0507-1]

8610. Seminar in Administrative Theory and Practice. (3). Critical appraisal of current theories in administration. Responsibilities, roles, values, and underlying assumptions involved in administration; the interaction of administrators, organizations and environments, and the process involved in administering complex organizational systems with multiple goals and programs in varied environments. [0501-1]

†Grades of S, U, or IP will be given.

MARKETING

PROFESSOR HARRY SUMMER, *Chairman and
Coordinator of Graduate Studies*

*Room 302
The College of Business Administration
Building*

I. In the Department of Marketing, qualified students may work toward the Master of Science degree with a major in Marketing, the Master of Business Administration with a major in Business Administration and a concentration in Marketing, or the Doctor of Business Administration with a major in Business Administration and a concentration in Marketing.

II. M.S. Degree Program**A. Program Admission**

1. Satisfactory performance on the Graduate Management Admission Test (GMAT)

2. Satisfactory undergraduate grade point average

3. Two (2) letters of recommendation

B. Program Prerequisites

In addition to Core I prerequisites summarized at the beginning of this College section, students should have successfully completed all necessary prerequisites for the advanced course work.

C. Program Requirements

1. Each candidate must complete a minimum of 33 semester hours of approved graduate courses. The 33 graduate credits include a minimum of 21 hours in the major (24 if a thesis is written).

2. Four of the following courses must be included in the major area: Marketing 7010, Current Aspects of Marketing; Marketing 7011, Marketing Strategies and Tactics; Marketing 7012, Marketing Structure and Administration; Marketing 7013, Marketing Controls; Marketing 7014, Marketing Information Systems Design; and Marketing 7015, Research Methodology.

3. Nine to twelve semester hours in a collateral area approved by the student's advisor. This will include Management 7410 (Seminar in Business Policy) if an integrating business policy course has not been successfully completed.

4. At least 24 of the 33 credit hours required must be in courses designated primarily for graduate students (7000 level or above).

5. Must pass a written and/or oral examination.

III. M.B.A. Program

See the beginning of this College section for admission, prerequisite and program requirements.

IV. D.B.A. Program

See the beginning of this College section for admission, prerequisite and program requirements.

1560 MARKETING (MKTG)

7001. Marketing Concepts . (3). Designed for graduate students with undergraduate degrees in fields other than business administration. A survey of marketing concepts as affecting

product, price, place, and promotional activities and related to profit and not-for-profit organizations. External environment affecting marketing. **PREREQUISITE:** ECON 2110 or ECON 7010. [0509-1]

7010. Current Aspects of Marketing. (3). A comprehensive review of current marketing literature. Emphasis on marketing innovations from the standpoint of functions, institutions, and concepts. [0509-1]

7011. Marketing Strategies and Tactics. (3). An analytical approach to planning as it relates to the marketing activities of a business enterprise. Focus is placed on: (1) Development of a qualitative-quantitative framework for decision-making; and (2) Fundamental strategies and tactics. [0509-1]

7012. Marketing Structure and Administration. (3). An appraisal and diagnosis of organizational structures and executive action as they relate to marketing decisions regarding both external and internal factors. [0509-1]

7013. Marketing Controls. (3). Adjustment of marketing operations to predetermine standards or control values in an effort to minimize performance variations. Emphasis on communicating to management the vital information necessary for sound administrative and planning decisions. [0509-1]

7014-8014. Marketing Information Systems Design. (3). The marketing information system from the standpoint of its inputs, operation, control and outputs so that it can be revised as greater efficiency is required. Simulation and other techniques helpful in designing effective marketing information systems. [0509-1]

7015. Research Methodology. (3). The nature and scope of research philosophy and methods in business. Primary and secondary research procedures. Emphasis on the preparation and presentation of independent research findings and on utilization of multi-variate analysis techniques. [0509-1]

7016. Introduction to Quantitative Marketing Methods. (3). Introduction to analytical tools available to marketing administration, including use of the computer, to develop decision criteria under known and uncertain operation conditions. Emphasis on the application of basic quantitative techniques to marketing situations. [0509-1]

7017-8017. Promotional Strategy and Management. (3). Use of combinations of promotional activities in achieving marketing strategies. Cases are used to illustrate (1) how promotional activities change as do the marketing strategies and (2) techniques of properly managing such activities. **PREREQUISITE:** MKTG 7012. [0509-1]

7018-8018. Health Care and Non-Profit Marketing. (3). Marketing beyond its traditional role in the for-profit industrial sector (e.g., its use in the arts, human and cultural services). Focus on the health care industry. Case situations used to develop marketing management decision making skills. **PREREQUISITE:** MKTG 3010 or MKTG 7001 or consent of department chairman. [0509-1]

7020-8020. History of Marketing Institutions and Thought. (3). Introduction to the concepts and theories advanced in the development of institutions, channels, functions, and processes in the field of marketing. [0509-1]

7021-8021. Pricing Theories and Policies. (3). Role of prices in our economy and of price making under varying conditions of competition. Examination of the acquisitive and social implications of pricing policies. [0509-1]

7022. Behavioral Approaches to Marketing. (3). Analysis of the contributions of the behavioral science disciplines to consumer motivations, buying behavior, market adjustment, and product innovation. These processes evaluated with reference to psy-

chological drives and other behavioral science concepts at each stage of distribution. [0509-1]

7023. Advanced Quantitative Marketing Methods. (3). A critical examination of the various quantitative tools and the capabilities and limitations in marketing operations. [0509-1]

7025-8025. Management of Logistics Systems. (3). Design and implementation of logistics systems within the business firm including interaction among the various components of a logistics system such as inventory planning, order processing, location analysis, distribution center operations, transportation termination and scheduling, service levels, and distribution packaging. Highlights top management decision-making through case problems. [0509-1]

7026-8026. National Transportation Policy. (3). Current issues related to National Transportation policy. Emphasis on public policy alternatives and their impact on the transportation industry and infrastructure, transportation users and the general public. [0510-1]

7028-8028. Analysis of Modal Operations and Problems. (3). Investigation into the interworkings of transportation enterprises. Discussions, case analyses, and individual projects in a framework covering subjects such as: carrier liabilities, equipment selection and control, promotional practices, demand analysis, labor relations and personnel selection. Both freight and passenger operations encompassing urban, intercity and international movements. [0510-1]

7030. Marketing Seminar —. (3). Special study of problems in marketing. Topics areas change each semester as determined by relevant developments in marketing. Course may be repeated once with a change in content. Current topic listed in Schedule of Classes. **PREREQUISITE:** Consent of instructor. [0509-1]

7031-8031. Seminar in Transportation. (3). Focuses on managerial problems from the standpoint of the user of transportation and the transportation firm. Attention to the legal rights and responsibilities of carriers and users as well as other topics such as organization problems and pricing decisions. [0509-1]

7910. Problems in Marketing. (3-6). Directed independent research projects in an area selected by the student with the approval of the staff member supervising. **PREREQUISITE:** Consent of department chairman. [0509-8]

†7996. Thesis. (3-6). Application for writing a thesis must be filled out on an approved form after consultation with the major professor and filed with the Dean of The Graduate Studies. [0509-6]

8024. Multinational Marketing Seminar. (3). Emphasis on the cross-cultural aspects of multinational marketing through case studies and individual research. The execution of marketing concepts and theories in different cultures and environments. Similarities and differences of applications and results. [0509-1]

8027. Marketing Simulation and Models. (3). The art and science of systems simulation applied to marketing activities. Emphasis on the designing of a model, running experiments with it and analyzing the results. Individual empirical research is encouraged. [0507-1]

8035. Seminar in Marketing Concepts. (3). Systemic comparisons of current concepts in the field of marketing. Emphasis on advanced individual study conjoined with group analysis and discussion. May be repeated for a total of nine (9) credits. [0509-1]

†Grades of S, U, or IP will be given.



THE COLLEGE OF COMMUNICATION AND FINE ARTS

Dean,
RICHARD R. RANTA, Ph.D.

Director of Graduate Studies,
RAYMOND M. LYNCH, D.M.A.

COLLEGE OF COMMUNICATION AND FINE ARTS GRADUATE ACADEMIC PROGRAMS

Department	Major	Concentrations	Degree Offered
Art	Studio Art	(1) Painting (2) Sculpture (3) Printmaking (4) Graphic Design (5) Interior Design (6) Ceramics	Master of Fine Arts (M.F.A.)
	Art	Art History	Master of Arts (M.A.)
		Art Education	Master of Arts in Teaching (M.A.T.)
Music	Music	(1) Applied Music (a) Composition (b) Piano (c) Vocal Pedagogy (d) Vocal Performance (e) Organ (f) Harpsichord (g) Strings Pedagogy (h) Strings Performance (i) Brasses (j) Woodwinds (k) Percussion (l) Opera Production & Directing (2) Sacred Music (3) Music Theory	Master of Music (M.M.)

Department	Major	Concentrations	Degree Offered
Music	Music	(4) Music History (5) Orff-Schulwerk (6) Suzuki Pedagogy (Piano)	Master of Music (M.M.)
		Musical Arts: Ethnic Music (South Central Region)	Master of Arts (M.A.)
	Music Education		Master of Education (M.Ed.)
	Musical Arts	(1) Composition (2) Musicology Regional Studies (3) Performance (4) Sacred Music (5) Music Education	Doctor of Musical Arts (D.M.A.)
Theatre and Communication Arts	Communication	(1) Radio-TV-Film (2) Rhetoric and Communication Arts (3) Theatre	Master of Arts (M.A.)
	Theatre		Master of Fine Arts (M.F.A.)
Interdepartmental	Individual Studies	(by contract)	Master of Arts (M.A.) Master of Science (M.S.)

Programs are available in the College of Communication and Fine Arts leading to the MASTER OF ARTS (Art History, Musical Arts, and Theatre and Communication Arts), the MASTER OF ARTS IN TEACHING (Art Education), the MASTER OF FINE ARTS (Art and Theatre and Communication Arts), the MASTER OF MUSIC (Applied Music, Music Theory, Music History, Sacred Music, and Orff-Schulwerk), and the DOCTOR OF MUSICAL ARTS (Performance, Composition, Sacred Music, Musicology, and Music Education).

For requirements applicable to the individual degrees, please consult the appropriate departmental section.

ART

PROFESSOR
LAWRENCE FIELDING EDWARDS
Chairman

DR. CAROL CROWN, *Coordinator of
Graduate Studies*

Room 201, Jones Hall

I. The Department of Art offers the Master of Arts degree with a major in Art and a concentration in Art History, the Master of Arts in Teaching with a major in Art and a concentration in Art Education, and the Master of Fine Arts with a major in Studio Art and concentrations in Painting, Sculpture, Printmaking, Graphic Design, Interior Design, and Ceramics.

II. M.A. Degree Program

A. Program Admission

1. Admission to the Graduate School.
2. An undergraduate major in art history of 27 semester hours or its equivalent. If, after evaluation of student's transcript, the art history faculty perceives a deficiency in the major areas of Western European or American Art, the student may be required to successfully complete undergraduate courses or examinations for credit in appropriate areas.

B. Prerequisites for Admission to Degree Candidacy

The student shall apply for admission to degree candidacy after the completion of 15 semester hours of graduate work. To be approved for admission for candidacy, the student shall have:

1. A grade point average of at least 3.0 on a 4.0 scale.
2. Removed all departmental prerequisite requirements.
3. A planned degree program which meets all departmental and graduate school requirements.
4. The qualifying examination in art history shall be successfully taken and identified deficiencies removed. This test is primarily a slide identification exam which concentrates on Western monuments from ancient through modern times.

5. Knowledge of an appropriate foreign language must be demonstrated by the student. Generally speaking, advanced studies in art history require proficiency in at least one foreign language, depending upon the area of concentration selected by the student. Foreign language proficiency must be demonstrated by successfully passing an examination administered by the Department of Art. This examination is set up so that each student is given a standard amount of time to translate in writing with the aid of a dictionary selected passages from scholarly articles in the student's field.

C. Program Requirements

1. A total of 30 semester hours for the student who elects to write an acceptable thesis. When a thesis is not submitted, the overall degree requirements shall be 33 semester hours.
2. The completion of 3 semester hours in ART 7130.
3. A minimum of 18 semester hours in art history (not including the required 3 semester hours in ART 7130 or any hours in ART 7996).

4. Eighteen semester hours of 7000 level courses.

5. Two electives outside the field of art history which must be approved by the advisor.

6. The satisfactory completion of a comprehensive examination and for the student who elects to write an acceptable thesis, a presentation and defense.

III. M.A.T. Degree Program

A. Program Admission

1. Undergraduate major in art education of 27 semester hours or its equivalent in art education hours, and supportive courses approved by art education faculty after transcript evaluation.

2. Approval by the art education faculty of student's proposed program after transcript evaluation.

3. Meet the university's requirements for admission to the graduate school.

B. Program Prerequisites

1. If, after evaluation of student's transcript, the art education faculty feels that he is deficient in basic art education, studio art or art history, he will be required to take stipulated undergraduate courses or pass examinations for credit given by the appropriate professor.

2. Student must be certified to teach art before admission to the M.A.T. program.

C. Prerequisites for Admission to Degree Candidacy

The student shall apply for admission to degree candidacy after the completion of 15 semester hours of graduate work. To be approved for admission to candidacy, the student shall:

1. Have a grade average of at least 3.0 on a 4.0 scale.
2. Remove all departmental prerequisite requirements.
- a. The student shall take a general art education written examination to determine if remedial work of any kind is necessary before further progress can be made toward the M.A.T. program in Art Education. This written essay examination will consist of five (5) general questions (1 question from education, 2 questions from art education, 1 question from art history and 1 question from art studio).

b. If after the review of the student's written examination, it is felt by the Art Education Graduate Committee that the student needs remedial work, a degree program will be planned by the student and his advisor to continue progress toward the M.A.T. degree in Art Education.

c. If after the review of the student's written examination, it is felt by the Art Education Graduate Committee that the student needs remedial work, recommended courses and/or readings will be prescribed for the student. Such remedial work is to be completed during the remainder of a student's program. Admission to candidacy will be given if the student agrees to complete the remedial work.

3. Take ART 7410, *Seminar in Art Education*, which will be utilized for the writing of a seminar paper which in turn will not only satisfy the course requirements but will also be read by the Art Education Examining Committee as part of the final written examination described below.

4. A planned degree program which meets all departmental and graduate school requirements.

5. Write an examination of a specific nature concerning art education after completing all 36 semester hours of course work required for the M.A.T. program in art education. This written examination will consist of five (5) questions, which will be individually designed for each student. The question-writers will be chosen by the student. If this examination is not passed, further remedial work will be recommended before the student will be reexamined. If the reexamination is passed, the student will be recommended for graduation by the examination committee. Upon the approval of the examining committee, the advisor, and the chairman of the Art Department, the student will be eligible to receive the M.A.T. Degree in Art Education.

D. Program Requirements

1. A total of 36 semester hours:

a. Nine semester hours in professional education courses including: EDFD 7001 (7012 or 7021 or 7031 may be elected by

individuals who have completed undergraduate or graduate course work in the cultural foundations), EDPS 7521 and either EDPS 7112 or EDPS 7121.

b. Nine semester hours in art education courses including 3 of the 4 that follow: ART 7410, ART 7430, ART 7440, ART 7450

c. Fifteen semester hours in studio art.

d. Three semester hours of art history.

2. Twenty-four semester hours of 7000 level courses.

3. Satisfactory grade on a written comprehensive examination over course work, with follow up oral examination at option of examining committee.

IV. M.F.A. Degree Program

A. Program Admission

1. *Portfolio.* Approval by the area graduate committee of the applicant's creative work as specified below:

a. Graphic Design. Original and/or printed works.
b. Interior Design, 20-30 slides of drawings, perspectives, renderings, plans, elevations, etc.

c. Ceramics, Painting, Printmaking, and Sculpture. 20-30 slides of mainly work in the applicant's concentration area plus some slides of drawings and (optional) other media. Include additional views of 3-D pieces. Submission of original work might be further requested.

2. *Letters of recommendation.* Letters from two persons familiar with the applicant's creative activity but who are not members of the area graduate committee. (If applying for a teaching assistantship, each recommendation should contain reference to the applicant's teaching ability.)

3. *Statement.* A brief, personal statement of professional ambitions, intended concentration area, other special creative interests, and outline of previous professional experience.

4. *Deadline.* Applications for any given semester including summer sessions are normally decided during the regular academic year (approximately November 30th for Spring semester or April 30th for Summer and Fall entrance). Late applications will be considered, however, if space and faculty are available.

5. *Address.* Send slides, work, letters of recommendation, art statement to:

Coordinator of Graduate Studies
Department of Art
Memphis State University
Memphis, Tennessee 38152

6. *Conditional Admittance.* The area graduate committee may award conditional admittance after reviewing the application with the provision that the student complete undergraduate prerequisites or otherwise correct deficiencies.

B. Program Prerequisites

1. *Previous education and experience.* Normally admission to the graduate program will require an undergraduate major in the applicant's concentration area. (See concentration area listed above.) A baccalaureate degree from an accredited institution is required, with not less than 70 semester hours of art, which 12 hours should be in art history and 18 hours (24 hours for Graphic Design and Interior Design) must be in the concentration studio courses. Exceptions to the above requirement will be considered, however, when the portfolio and professional experience warrant it. Note: For Graphic Design and Interior Design three years of prior professional experience is also required.

2. *Transfer credit.* Any applicant who holds an M.A. degree in studio art from another institution may transfer up to a maximum of 30 semester hours credit in art earned for that degree to apply toward the M.F.A. degree.

C. Prerequisites for Admission to Degree Candidacy

The student shall apply for admission to degree candidacy after the completion of 15 semester hours of graduate work. To be approved for admission for candidacy, the student shall have:

1. A grade point average of at least 3.0 on a 4.0 scale.
2. Removed all departmental prerequisite requirements.
3. A planned degree program which meets all departmental and graduate school requirements.

Program Requirements

A total of 60 semester hours including a thesis of 6 semester hours in the student's area of concentration.

A total of 36 semester hours of studio art, excluding the thesis, with a minimum of 24 semester hours in the student's area of concentration.

Thirty semester hours of 7000 level courses.

A total of 9 semester hours in art history.

A total of 9 semester hours of electives.

Satisfactory grade on a written comprehensive examination or course work, with follow-up oral examination at option of advising committee.

Thesis (exhibition) to be approved by a faculty committee on the member under whom thesis was prepared, as chairman.

K020 ART (ART)

6201. History of Graphic Design. (3). A survey of major trends and developments in the field of graphic design: typography, illustration, photography, reproduction, technology, and broadcast media. [1003-1]

6202. Ancient Arts of the Near East. (3). A study of architecture, sculpture, painting, and the minor arts in Egypt and the Ancient Near East. [1003-1]

6203. Greek and Roman Art. (3). A study of the architecture, sculpture, and painting from Aegean Art to the Fall of the Roman Empire. [1003-1]

6204. Early Christian and Byzantine Art. (3). The development of architecture, sculpture, and painting through the early medieval period, with emphasis on early Christian and Byzantine Art. [1003-1]

6205. Romanesque and Gothic Art. (3). The development of architecture, sculpture, and painting from the Carolingian (Proto-Romanesque) Period through the Gothic Period. [1003-1]

6206. Art of the Early Renaissance in Italy. (3). Survey of the architecture, sculpture and painting of Italy, 1300-1510. [1003-1]

6207. Northern Renaissance Art. (3). Fifteenth century art in Northern Europe with emphasis on panel painting, manuscript illumination and printmaking. [1003-1]

6208. Art of the High Renaissance in Italy. (3). Sixteenth century art in Italy, highlighting the works of Michelangelo, Raphael, Titian and the Mannerists. [1003-1]

6209. Baroque Art. (3). Historical study of the architecture, sculpture, and painting produced in Europe during the seventeenth century. [1003-1]

6210. Nineteenth-Century Art. (3). A study of the art movements of the nineteenth century from Neo-Classicism to Impressionism. [1003-1]

6211. Modern Art. (3). Major art developments in European painting and sculpture from the 1890's through World War II, including Fauvism, Cubism and Surrealism. [1003-1]

6212. Art Since 1945. (3). Major art movements and contemporary schools of criticism from World War II until present day. Art trends include Abstract Expressionism, Pop Art, and Minimalism. [1003-1]

6213. Modern Architecture. (3). 19th century styles, 20th century masters, contemporary developments in architecture, including historic preservation. [1003-1]

6214. Spanish Colonial Art. (3). A study of the arts in South America, Mexico, and the United States during the period of Spanish Rule. Chiefly, a survey of Baroque Art in the Americas. [1003-1]

6215. Pre-Columbian Art. (3). A survey of the ancient arts of Mexico, Central America, and South America from c. 1000 B.C. to European contact. [1003-1]

6216. Art of the American Indian. (3). A survey of the arts of the North American Indians from prehistory to the present. [1003-1]

6217. Art in America I. (3). A survey of American Art: architecture, sculpture, painting, and the minor arts within the Continental United States from prehistoric times to the Civil War. [1003-1]

6218. Art in America II. (3). A continuation of Art 6167: architecture, sculpture, painting and the minor arts in the Continental United States from the Civil War period to the present. [1003-1]

6219. Oriental Art: India. (3). Artistic traditions and monuments of India from the Indus Valley period to the 19th century (related to Hinduism, Buddhism and Islam; the influence of these traditions on Southeast Asia. [1003-1]

6220. Oriental Art: China and Japan. (3). Artistic traditions and monuments of China and Japan from the prehistoric periods to the 19th century as related to Confucianism, Taoism, Buddhism and Shinto. [1003-1]

6221. Primitive Art. (3). A survey of the art of the primitive peoples of Africa, the aboriginal people of Oceania, and the American Indians. [1003-1]

6222. Special Topics in Art History. (1-6). Art history topics or problems. Group tours to pertinent exhibitions or museum lectures when feasible. The content of the course may vary from semester to semester. May be repeated to a maximum of 6 hours. [1003-9]

6223. Advanced Design-Plastics. (3). A course in two-dimensional and three-dimensional design in plastics employing the basic methods of casting resins and thermoforming processes using sheet, rod, and tube plastics. [1009-8]

6224. Advanced Design-Plastics. (3). Further development of two-dimensional and three-dimensional design in plastics employing the basic methods of casting resins and thermoforming processes using sheet, rod, and tube plastics. [1009-8]

6205. Advanced Design-Continuous Pattern Processes. (3). A study of design with emphasis on both the theoretical and practical approaches to continuous pattern processes using various media and processes. [1009-8]

6206. Advanced Design-Continuous Pattern Processes. (3). This is a continuation of Art 6205 in which more advanced work is done in constructed pattern processes. [1009-8]

6207. Advanced Color. (3). An indepth study of contemporary color concepts for designers and practicing artists. A personal exploration of the phenomena of color perception in relation to color organization will be encouraged according to the individual student's professional goals. [1009-8]

6208. Advanced Design-Special Problems. (3). A course of study centered around contemporary design issues within our region, allowing specific design fields to be offered by professional designers working in a broad scope of specializations who would serve as guest/resident/or adjunct faculty on a rotational basis when feasible. [1009-9]

6221. Graphic Design. (3). Advanced problems in the fields of advertising and merchandising design. [1009-8]

6222. Graphic Design. (3). A continuation of Art 6221 with special attention given to individual problems and personal approach. [1009-8]

6237. Interior Design Studio. (3). Advanced study in Interior Design. Comprehensive studio assignments including space planning, construction, lighting and complete furnishings specifications with samples, concluding with class presentation by the student designer. [1009-8]

6238. Interior Design Studio. (3). A continuation of Art 6237 with further advanced studio assignments in commercial and residential interior design, with class presentations. PREREQUISITE: ART 6237 or permission of instructor. [1009-8]

6239. Interior Design Business Practices. (3). The study and application of the principles, procedures and business practices of Interior Design. Contracts, Letters of Agreement, Work Orders, business forms and specification writing are developed in conjunction with lectures and studio assignments. [1009-1]

6240. Interior Design Internship. (3). An approved on-the-job apprenticeship experience with a cooperating employer in an Interior Design firm's studio, retail store or designer showroom handling products of the interior furnishings industry. The student's training will be evaluated by the employer and the interior design faculty at the conclusion of the course. PREREQUISITE: ART 6239 or permission of instructor. [1009-5]

6321. Drawing and Painting. (3). An advanced course in drawing and painting methods with emphasis on transparent watercolor. [1002-8]

6322. Drawing and Painting. (3). A continuation of Art 6321 with attention given to various mixed media. [1002-8]

6331. Painting. (3). A consideration of advanced problems in oil painting, presupposing that the student has mastered basic techniques and is ready for a more experimental approach to the subject. [1002-8]

6332. Painting. (3). A continuation of Art 6331 with emphasis on development of a personal style. [1002-8]

6341. Illustration. (3). A survey of the many areas requiring the services of an illustrator and including the preparation of book, magazine, advertising, and television illustrations. [1009-8]

6342. Illustration. (3). A continuation of Art 6341, dealing with analysis of fine art techniques of drawing and painting as they apply to commercial illustrations. [1009-8]

6351. Printmaking. (3). Specialization in one or two graphic media. Students are encouraged to develop a personal imagery and the necessary technical abilities. [1009-8]

6352. Printmaking. (3). The culminating course in the graphic arts in which work may be done in woodcut, etching, or lithography. [1009-8]

6380. Museology. (3). (Same as Anthropology 6380). The history and development of museums; mandate and variety of institutions; significant research facilities; historical and contemporary collections, and the educational roles of museums in contemporary society. [2299-1]

6381. Art Curatorial Techniques. (3). Concentrates on curatorial responsibilities and functions; receiving and shipping methods, registration, physical and environmental security, research, conservation, and a study of the art market and publications. [1099-1]

6382. Museum Operation. (3). (Same as Anthropology 6382). Basic aspects of museum organization, management, exhibit planning and execution, and maintenance of collections and records. [2299-1]

6424. Woven and Constructed Fiber Design. (3). Study in the creative design of textile construction, including experimental and multi-harness weaving, rugmaking techniques, macrame, applique, stitchery, crochet, knitting, and related processes. [1009-8]

6425. Woven and Constructed Fiber Design. (3). This is a continuation of Art 6424 in which more advanced work is done in constructed fiber design. [1009-8]

6511. Sculpture. (3). Advanced work in various sculptural media. [1002-8]

6512. Sculpture. (3). A continuation of ART 6511 with emphasis upon personal expression. [1002-8]

6521. Ceramics. (3). An introductory course in pottery-making, including hand forming and production processes using clays, plaster, and cements. [1009-8]

6522. Ceramics. (3). A continuation of ART 6521, offering further study in pottery-making and glazing with emphasis on design. [1009-8]

6531. Jewelry. (3). Jewelry-making with emphasis on materials and equipment. The nature and possibilities of metals, stones and other materials are investigated in terms of good jewelry design. Basic projects in enameling, soldering, pickling, buffing, and other techniques. [1009-8]

6532. Jewelry. (3). A second course in jewelry-making and metalwork. Study and practice in good design. Work done in lost wax casting, champleve, cloisonne, and combinations of materials. [1009-8]

6621. Workshop in Art. (3). The study of specific art problems as they apply to the individual student with emphasis on basic art concepts and creative experience. [1009-8]

6622. Workshop in Art. (3). A continuation of ART 6621, providing study of problems appropriate to the need of the individual student. [1009-8]

6641. Study and Travel in Art. (3 or 6). Travel to important art areas of the world and specialized study under the direction of a departmental faculty member. Research problem to be assigned and evaluated by major professor required. [1003-8]

6701. Color Photography. (3). Exploration of photographic perception in color. Survey of the history and aesthetics of color photography. Techniques of color photography with emphasis on color printing. PREREQUISITE: ART 2702 or ART 6002 or permission of instructor. [1011-1]

6702. Photographic Materials and Processes. (3). Primarily an advanced technical course exploring the creative potential in various contemporary and historical photography materials, processes and techniques. Emphasis is on aesthetic application of those materials and techniques. PREREQUISITE: ART 2702 or ART 6002 or permission of instructor. [1011-1]

6711. Advanced Photography Seminar. (3). Emphasis is placed on finding a personal direction within the student's work, pursuing that direction, and discussing it in class critiques. PREREQUISITE: ART 3701 or ART 6003 or permission of instructor. [1011-8]

6712. Photography Portfolio Seminar. (3). The student must produce a book of photographs or portfolio (bound by the student) which represents a coherent, in-depth pictorial statement and contains a written introduction. (Continuation of ART 6711). PREREQUISITE: ART 4711 or ART 6711. [1011-8]

7120. Graduate Studies in Medieval Art. (3-9). Study of selected areas of special problems in Early Medieval, Romanesque or Gothic Art. May be repeated upon recommendation of the advisor. [1003-8]

7121. Graduate Studies in Ancient Art. (3-9). Study of selected areas or specific problems in Egyptian, Near Eastern, Greek, or Roman Art. May be repeated upon recommendation of the advisor. [1003-8]

7130. Art History Methodology. (3-9). Study of the techniques of Art History research and composition; the use of various kinds of source material and bibliographical aids. Required of all M.A. candidates. [1003-8]

7140. Graduate Studies in Renaissance Art. (3-9). Study of selected areas or specific problems of Renaissance Art. May be repeated upon recommendation of the advisor. [1003-8]

7142. Graduate Studies in Baroque Art. (3-9). Study of selected areas or specific problems in Baroque Art. May be repeated upon recommendation of the advisor. [1003-8]

7150. Graduate Studies in Nineteenth Century Art. (3-9). Study of selected areas of specific problems in Nineteenth Century Art. May be repeated upon recommendation of the advisor. [1003-8]

7152. Graduate Studies in Twentieth Century Art. (3-9). Study of selected areas or specific problems in Twentieth Century Art. May be repeated upon recommendation of advisor. [1003-8]

7165. Graduate Studies in American Art: Ancient to Modern. (3-9). Study of selected areas or specific problems in Pre-Columbian, North American Indian, Spanish Colonial, or American Art. May be repeated upon recommendation of the advisor. [1003-8]

7171. Graduate Studies in Oriental Art. (3-9). Study of selected areas or specific problems in Chinese, Japanese, or Indian Art. May be repeated upon recommendation of the advisor. [1003-8]

7180. Graduate Studies in Primitive Art. (3-9). Study of selected areas or specific problems in Primitive, Pre-Columbian or North American Indian Art. May be repeated upon recommendation of the advisor. [1003-8]

7200. Graduate Photography Seminar. (3). The student will pursue a self-assigned visual/conceptual photographic problem in depth, in which a journal will be kept. Group critiques and some seminar activities will be planned. May be repeated for a maximum of 6 credits. [1011-8]

7201. Advanced Research Photography. (3). Independent work and research in photography. May be repeated for a maximum of 9 credits. PREREQUISITE: Consent of instructor. [1011-8]

7330. Studies in Two-Dimensional Media. (3-12). Exploration of an original visual arts idea in two-dimensional media. This course may be repeated several times depending upon the recommendation of the advisor. [1002-8]

7410. Seminar in Art Education. (3). Analysis of fundamental concepts and issues in art education; examination of current problems and current literature in art related to other professions. [0831-8]

7430. Research in Art Education. (3). Study and use of observational methods, statistical and descriptive studies related to art education. [0831-8]

7440. Curriculum and Instructional Theories Applied to the Visual Arts. (3). Advanced study of factors affecting curriculum decisions, analysis, organization, and preparation related to the visual arts. Evaluation and sources of art curriculum improvement and innovations. [0831-8]

7450. History and Philosophy of Art Education. (3). Study of the literature related to American Art Education movements. [0831-8]

7550. Studies in Three-Dimensional Media. (3-12). Exploration of an original visual arts idea in three-dimensional media. This course may be repeated several times depending upon the recommendation of the advisor. [1002-8]

7660. Directed Individual Study. (3-9). Individual investigation of special research problems or projects. May be repeated upon the recommendation of the advisor. [1002-8]

7770. *Studies in Mixed Media*. (3-12). Exploration of an original visual arts idea in mixed media. This course may be repeated several times depending upon the recommendation of the advisor. [1002-8]

†7996. *Thesis*. (1-6). Preparation and defense of a thesis prepared under the direction of major professor. Studio Art thesis requires an exhibition. [1002-6]

†Grades of S, U, or IP will be given.

JOURNALISM

PROFESSOR GERALD STONE, *Chairman*
Room 300
Meeman Journalism Building

The Department of Journalism offers graduate courses which may be used as electives. Students who wish to use these courses in their program should consult with their major advisor and the Journalism Department Chairman.

K260 JOURNALISM (JOUR)

6400. *Institutional Media Relations*. (3). Interpreting the goals, needs, and achievements of institutions (primarily educational) to their publics. [0601-1]

6704. *Theories of Communication*. (3). (Same as Communications 6704). Comparison of theories offered to explain the character or effects of mass communication media ranging from agenda-setting theory to stimulus-response theory. [0601-1]

6726. *Journalism Research Methods*. (3). (6175) Familiarization with content analysis, survey research, data analysis, and field studies as practiced by reporters, editors, and public relations decision makers. Modern research techniques and class project using computer analysis. PREREQUISITE: Permission of instructor. [0602-1]

7024. *International Journalism*. (3). Development of international communication, flow of news and propaganda; role in international relations, comparison of press systems. [0602-1]

7190. *Seminar: Public Relations in Institutional Development*. (3). Study of the cybernetic function of public relations in the development and control of various institutions and in business and industrial organizations. [0601-1]

MUSIC

PROFESSOR DAVID R. WILLIAMS, *Chairman*
Room 123B, Music Building
DR. WALTER WADE, *Coordinator of Graduate Studies*

I. The Department of Music offers the Master of Music degree with a major in Music and concentrations in Applied Music, Sacred Music, Music Theory, Music History, Orff-Schulwerk; the Master of Arts degree with a major in Music and a concentration in Musical Arts: Ethnic Music (South Central Region); the Master of Education with a major in Music Education; the Doctor of Musical Arts degree with a major in Musical Arts and concentrations in Composition, Musicology Regional Studies, Performance, Sacred Music, and Music Education. The Education Specialist degree is also available through the Department of Curriculum and Instruction with a major in Curriculum and Instruction and a concentration in Music Education.

The Department of Music is a member of the National Association of Schools of Music.

A. Prerequisites to graduate standing.

A baccalaureate degree in music or the equivalent is required before entrance to a master's program in music.

Graduate work in theory, history, or applied music may not be taken until any identified deficiencies in these areas are removed. Graduate proficiency examinations in music theory and music history are generally held on the two days preceding graduate registration for the fall, spring, and summer terms.

1. A satisfactory grade shall be made on the aural and written theory proficiency examinations. A comprehensive course in theory, analysis, and ear-training (MUTC 6202) is recommended for graduate students in need of review and preparation for graduate work in theory. A satisfactory grade in this course will satisfy the graduate entrance requirement in theory.

2. A satisfactory grade shall be made on the music history and literature proficiency examination. MUHL 7301 and 7302 (Survey of Music History) are recommended for graduate students in need of review and preparation for graduate work in history. Satisfactory grades in these courses will satisfy the graduate entrance requirement in history.

3. A successful audition (or acceptable compositions in various media for candidates who plan a major concentration in composition) shall be presented when applicable to the anticipated degree program.

4. Students who plan a concentration in Vocal Pedagogy must satisfactorily pass the proficiency examination in Diction administered by the Voice Division. Unsatisfactory performance in this area will make immediate enrollment in the Diction course mandatory.

B. Prerequisites to degree candidacy.

1. The program of the student's intended degree shall be planned.

2. The student shall declare his major and minor concentration areas. Admission to graduate standing in the proposed major and minor must be approved by the area chairman.

3. A thesis topic shall be chosen and approved on those degree programs involving the thesis.

4. Satisfactory completion of the keyboard proficiency examination.

C. Prerequisites for graduation.

1. A student with a concentration in applied music must successfully complete an audition for his public recital and shall perform that recital with distinction.

2. A student of whom a thesis is required shall submit an acceptable thesis.

3. The comprehensive examination shall be taken and passed. Graduate proficiency examinations in music theory and music history are generally held on the two days preceding graduate registration for the fall, spring, and summer sessions.

Outstanding performers may be recommended for the Performer's Certificate by their major professor at the time the recital audition is held. Following a favorable recommendation of the audition committee, the Chairman of the Department of Music will convene a panel of the applied music faculty to hear the recital and make a recommendation concerning the award.

Complete details of this outline may be obtained by writing the Coordinator of Graduate Studies in Music, Department of Music.

II. M.M. Degree Program

A. Program Requirements — Applied Music

The degree requirements listed below are for the following concentrations:

1. Piano
2. Composition
3. Organ
4. Harpsichord
5. Strings Performance
6. Brasses
7. Woodwinds
8. Percussion

- a. 14 hours in one of the concentrations listed above
- b. MUHL 7400 Bibliography and Research Methods (3)
- c. MUTC 7102, 7201, or 7202 (3)
- d. MUHL 6408 Style Periods in Music History (3)
- e. 6 hours of music electives
- f. 2 hours of MUAP 7001 Large Graduate Ensemble
- g. Recital, Composition Practicum, or Thesis (3)
9. String Pedagogy

- a. 8 hours in applied strings
- b. 6 hours in string pedagogy
- c. MUSE 7204 Instrumental Literature and Techniques (3)
- d. MUAP 7002 Chamber Music (1)
- e. MUAP 7099 Chamber Music Recital (1)
- f. MUHL 7400 Bibliography and Research Methods (3)
- g. 2 hours in MUAP 7001 Large Graduate Ensemble
- h. MUHL 6408 Style Periods in Music History (3)
- i. MUTC 7102, 7201, or 7202 (3)
- j. Recital or Lecture Recital (3)

10. Vocal Pedagogy

- a. 6 hours in applied voice
- b. 6 hours in vocal pedagogy
- c. MUHL 6408 Style Periods in Music History (3)
- d. MUTC 7102, 7201, or 7202 (3)
- e. MUHL 7400 Bibliography and Research Methods (3)
- f. 2 hours of MUAP 7001 Large Graduate Ensemble
- g. MUAP 7617 Lecture Recital (3)
- h. Music electives (6)

A minimum of 6 undergraduate hours each in two of the following languages is required: French, German, Italian. In addition, the student must have 2 semesters of Song Repertory. These hours may be earned while the student is in Graduate School.

11. Vocal Performance

- a. 12 hours in applied voice
- b. 6 hours in opera
- c. MUHL 7400 Bibliography and Research Methods (3)
- d. 2 hours in MUAP 7001 Large Graduate Ensemble
- e. MUHL 6408 Style Periods in Music History (3)
- f. MUTC 7102, 7201, or 7202 (3)
- g. Recital (3)
- h. A minimum of 6 undergraduate hours in each of the following languages is required: French, German, Italian. In addition, the student must have 2 semesters of Song Repertory. These hours may be earned while the student is in Graduate School.

12. Opera Production and Directing

- a. MUHL 6407 The Opera and Music Drama (3)
- b. MUAP 7622 Independent Project in Opera Direction (6)
- c. MUAP 7623 Independent Study in Opera and Musical Theatre Production (6)
- d. MUAP 7699 Production Practicum (3)
- e. MUHL 7400 Bibliography and Research Methods (3)
- f. 2 hours in MUAP 7001 Large Graduate Ensemble
- g. MUHL 6408 Style Periods in Music History (3)
- h. MUTC 7102, 7201, or 7202 (3)
- i. 6 hours of theatre electives

A minimum of 6 hours undergraduate credit each in two of the following: French, German, Italian. These hours may be earned while the student is in Graduate School.

B. Program Requirements — Sacred Music

1. 12 hours in a sacred music core
2. 6 hours in applied music
3. 3 hours of choral techniques
4. MUHL 7400 (Bibliography and Research Methods) and hours of MUAP 7001 (Large Graduate Ensemble)
5. 6 hours of electives (all of these hours may be outside of sic). Electives are to be planned in consultation with the professor and may be selected from, but not limited to, courses in Theatre and Communication Arts and Business Administration.
6. 3-hour recital

C. Program Requirements — Music Theory

1. 15 hours in music theory
2. 6 hours in a minor concentration in music
3. MUHL 7400 Bibliography and Research Methods (3)
4. 2 hours of MUAP 7001 Large Graduate Ensemble
5. MUHL 6408 Style Periods in Music History (3)
6. Thesis (3)

If MUHL 6408 is included as a part of the minor concentration the student may take 3 hours of music electives.

D. Program Requirements — Music History

1. 15 hours in music history courses to include MUHL 7400 bibliography and Research Methods
 2. MUTC 7102, 7201, or 7202 (3)
 3. Minor concentration in music (9)
 4. 2 hours of MUAP 7001 Large Graduate Ensemble
 5. MUHL 7999 Thesis (3) or three edited research papers
- If the minor area is in theory, the student must take a total of 18 hours in music history courses.

1. 15 hours in music history courses to include MUHL 7400 bibliography and Research Methods
 2. Minor in music theory (6)
 3. Minor in another area of music (6)
 4. 2 hours of MUAP 7001 Large Graduate Ensemble
 5. MUHL 7999 Thesis (3) or three edited research papers
- A reading knowledge of one foreign language must be demonstrated before the student may be admitted to candidacy grade of "B" or better in the fourth semester of a college course will be accepted in lieu of a reading examination.

E. Program Requirements — Orff-Schulwerk

1. Core: (20 hours)
- a. MUSE 7402 History and Philosophy of Music Education (3)
- b. MUSE 7403 A Survey of Research in Music Education (3)
- c. MUSE 6803 Intermediate Workshop in Orff-Schulwerk (3) OR
MUSE 6804 Teachers Workshop in Orff-Schulwerk (3) OR
MUSE 7214 Master Class in Orff-Schulwerk (3)
- d. MUSE 7215 Internship in Orff-Schulwerk (3)
- e. MUAP 7001 Large Graduate Ensemble (1)
- f. MUAP 7003 Small Graduate Ensemble (1)
- g. MUHL 6408 Style Periods in Music History (3)
- h. MUTC 7102, 7201, or 7202 (3)

2. Music Education Electives: 9 hours to be chosen from the following:

- MUSE 6802 Introductory Workshop in Orff-Schulwerk (3)
- MUSE 6804 Teachers Workshop in Orff-Schulwerk (3)
- MUSE 7214 Master Class in Orff-Schulwerk (3)
- MUSE 7205 Music Curriculum Development for Pre-School and Elementary School (3)
- MUSE 7202 Music in Early Childhood (3)
- MUSE 6206 Music for Exceptional Children (3)
- MUSE 7213 Orchestration of Orff Instrumentarium (3)

3. Other Electives: 3-4 hours chosen from other areas of music or from Professional Education.

F. Program Requirements — Suzuki Pedagogy (Piano)

1. 12 hours in the concentration area as follows:
- a. MUSE 6508 Principles of Suzuki Piano (3)
- b. MUSE 7504 Suzuki Piano Literature and Techniques I (3)
- c. MUSE 7505 Suzuki Piano Literature and Techniques II (3)
- d. MUSE 7506 Perspectives in Suzuki Teaching (3)
2. MUHL 6408 Style Periods in Music History (3)
3. MUTC 7102, 7201, or 7202 (3)
4. MUHL 7400 Bibliography and Research Methods (3)
5. 2 hours in MUAP 7001 Large Graduate Ensemble
6. 8 hours in applied piano
7. MUAP 7319 Recital (3)

III. M.A. Degree Program

Program Requirements

1. 18 hours in musicology to include MUHL 7400, MUHL 7401, and MUHL 7800 (9 hours).

The remaining 9 hours must focus on southern regional music. 12 hours in anthropology, history or other related fields selected in consultation with the advisors in music and other fields.

3. 3 hours in thesis to be jointly supervised by advisors in music and a related field.

4. A reading knowledge of German or French must be demonstrated prior to graduation.

Proficiency requirements in music theory and music history may be waived in the case of students not having undergraduate degrees in music if the student's program of graduate study and research in regional ethnomusicology is continued in historical or sociological direction. The petition must be initiated by the student, endorsed by the coordinator of graduate studies in ethnomusicology, and approved by the graduate music

Music

before the student has completed 15 hours of graduate study in this program. The piano proficiency examination may be waived through the same process of petition.

M.Ed. Degree Program**Program Prerequisites**

This program is designed for individuals holding a teaching certificate in music. If a candidate is not certified to teach music, requirements for certification must be met prior to admission to graduate study.

Program Requirements

9 semester hours in music education as follows:

- MUSE 6801 Teaching Music Composition (3)
- MUSE 7402 History and Philosophy of Music Education (3)
- MUSE 7403 A Survey of Research in Music Education (3)
- 9 semester hours in education as follows:
- EDFD 7001 Foundations of Education (3)

The student has completed undergraduate or graduate coursework in cultural foundations, EDFD 7012, 7021 or 7031 may be substituted.

EDPS 7111, 7112, or 7121 (3)

CIED 7002 (3)

MUHL 6408 Style Periods in Music History (3)

MUTC 7102, 7201, or 7202 (3)

9 hours in music electives to include at least 6 hours in music education

2 hours in MUAP 7001 Large Graduate Ensemble

Ed.S. Degree Program**Program Prerequisites**

This program is designed for individuals holding a Master's degree in Music Education. A satisfactory grade must be made on music theory, the music history and literature, and the music education proficiency examinations before degree candidacy may be declared unless these examinations have previously been taken at Memphis State University.

Program Requirements

24 semester hours in music education as follows: MUSE 6801, 7402, 7403, and CIED 8000

21 semester hours in music to include MUHL 7400

12 semester hours in education: EDFD 7001 (EDFD 7012, 7021, or 7031 may be substituted if the student has completed course in cultural foundations at the undergraduate or graduate level), EDPS 7111 or 7112 or 7121, CIED 7002, EDRS 7101

9 semester hours of electives in the College of Education (including Music Education)

Minimum total: 66 semester hours of graduate credit with a minimum of 9 semester hours in courses numbered 8000 or above.

Additional information pertaining to specific course requirements in the major and collateral areas may be secured from the Division of Music Education.

D.M.A. Degree Program

This program as outlined in this presentation is shaped to allow maximum flexibility in designing a program around the individual student's background and needs. While the distribution of courses is firm, program requirements are to be regarded as general rather than fixed. The student's preparation and experience will be carefully evaluated in the light of his stated goals before prescribing an individually selected course of study suited to his particular needs.

Candidates requesting admission to the doctoral programs in music must either present a master's degree in the area of specialization which they intend to pursue or provide the faculty with satisfactory evidence of their ability to perform in the intended area of specialization, either through performance in required courses or satisfactory performance in proficiency examinations. In general, an entering student should have a good grasp of music theory as applied to the various musical styles in evidence from approximately the eleventh century to the present. There should be a thorough knowledge of the historical style periods in considerable detail and an awareness of the relationship between the music and the sociological and historical events which produced it. Performers must present satisfactory evidence of the successful completion of several recitals with a repertoire of music currently in the performer's repertoire, which could be composed of representative literature available for performance on the instrument. Composers should present scores in a variety of media for examination by the composition faculty and evidence of performances of at least some of these works.

Admission to the Post-Master's Program

The following items are requirements for admission:

Official transcripts showing undergraduate and graduate work

Completion of one of the following degrees or its equivalent:

- Master of Music
- Master of Music Education
- Master of Arts in Music History
- Master of Arts in Applied Music
- Master of Arts in Ethnomusicology (Southern Regional Studies)

Admission to the Graduate School merely gives the privilege of entering course work. It does not in any way imply that the student is admitted to candidacy for an advanced degree.

Proficiency Examinations. All entering students must take proficiency examinations in music history and music theory. These are given at 4:00 p.m. on the two days preceding degree registration. Students with identified deficiencies in these areas will not be allowed to take graduate courses in history or theory until the deficiencies are removed.

Admissions. Students wishing to study applied music must audition for the applied faculty concerned and present a list of repertoire. With the approval of the applied faculty the student may register for 7000 level credit.

Prospective doctoral students and their repertory will be carefully reviewed at the end of each semester by the Applied Boards. If the Board has reservations at any time about the student's ability to pursue work at this level, the departmental coordinator should be notified. The coordinator will then convey this to the student. The Board's report will become a part of the student's record.

Transfer Credit. The number of transfer hours will be limited to 12 except by special approval of the graduate faculty in Music. All recitals required by the various concentrations must be performed at Memphis State University.

B. During the First Semester of Study

Qualifying Examinations. All students are required to attempt the qualifying examinations in music theory and music history during the first semester in attendance. (These are NOT the same as the entrance proficiency examinations.) The examiners will furnish the student with the results of the tests to aid him and his major advisor in planning a course of study. For students seeking the concentration in music education, there will be an additional requirement of an essay on an assigned topic in music education. Not including the required initial attempt, a student will be allowed to take these examinations twice.

The qualifying examination for those students in Performance may serve as the hearing for the first recital. Subsequent recitals must be heard by the student's doctoral committee before they may be approved for scheduling.

C. D.M.A. Candidacy

To become a candidate for a doctoral degree in music the student must:

1. Pass the qualifying examinations in music history and music theory
2. Pass the qualifying examination in the major area of concentration

For those in performance there is also a preliminary hearing in the major area. A committee of the applied faculty in the major area, chaired by the major professor, will be convened for this purpose. The student will deliver to the chairman a list of repertory sufficient for at least two recitals. The committee will select a program from this list to include one work of the student's choice. Satisfactory completion of this program constitutes faculty approval for the first dissertation recital.

3. Present satisfactory scores on the Miller Analogies Test and the Graduate Record Examination (including the advanced music portion)

4. After the qualifying examinations in music history, music theory, and the major area have been successfully completed, the student should, in consultation with his major professor, plan the remainder of his work and apply for candidacy on forms available in the Graduate Music Office.

D. D.M.A. — General Graduation Requirements

1. **Doctoral Committee.** The doctoral committee will be formally appointed as soon as the student is admitted to candidacy. This committee will consist of five members of the graduate faculty, with the major professor or division coordinator serving as chairman.

The dissertation topic should be formally approved for those in the music education or musicology concentrations. Candidates for the music education concentration must have a minimum of two years teaching experience before a dissertation proposal can be considered. The lecture recital topic and the final recital program should be formally approved for those in performance. Candidates in composition should seek formal approval of the dissertation work.

Students in the early stages of dissertation work may find it advisable or necessary to have the advice of faculty other than the major professor. While the committee is not officially appointed until the student becomes a candidate for the degree, there is no reason why the committee cannot begin to function earlier, even if in an informal way. The student should consult his major professor on the choice of a committee and then ascertain individually their willingness to serve.

2. **Comprehensive Examinations.** After the qualifying examinations have been passed, the student may take the oral comprehensive examination. When the candidate is ready, the Coordinator of Graduate Studies in Music will convene a board of examiners consisting of the candidate's doctoral committee plus any guests who may desire to attend or other faculty who may be invited at the committee's discretion. At the conclusion of the examination the results, in writing, will be reported to the Coordinator of Graduate Studies in Music.

3. **Submission of the Dissertation.** All regulations of the Graduate School regarding the mechanics and submission of the dissertation apply with equal force to those in music.

The research paper for those in performance should be an exhaustive study of the material chosen. While requirements for specific projects may vary, it is expected that an adequate paper would be no less than 60 pages. The same regulations of the Graduate School regarding the mechanics and submission of dissertations apply with equal force to these research papers.

4. **Final Examination.** For students writing a dissertation the final examination will consist of a defense of the dissertation before the dissertation committee. Other faculty may attend or be invited to participate.

For those in performance the examination will be a defense of the literature performed, the research on the lecture recital material, or other areas related to performance. At the conclusion of the examination the results, in writing, will be conveyed to the Coordinator of Graduate Studies by his major professor.

5. **Graduation.** The timetable and requirements for graduation are set by the Graduate School and published in the graduate bulletin.

6. **Post-Master's Assistantships.** Study at the post-master's level involves considerable sacrifice of time and often earning power to fulfill the requirement of most institutions that a full year must be spent in residence before a degree can be awarded. By awarding assistantships at the post-master's level, the Department of Music seeks to accomplish two purposes: first it is our intention to attract the very best combination of

talent and scholarship available; and second, it is our wish to encourage as many talented, mature students as possible to continue learning by providing basic subsistence during the year of residence. Normally, therefore, stipends to post-master's students will be for one year only. In exceptional cases, staffing or research needs may make an extension for a second year desirable. Students to be offered an extension for a second year will be notified by February 1.

F. Concentration Area Requirements:

1. **Performance** (bass, bassoon, cello, clarinet, flute, harp, horn, oboe, organ, percussion, piano, saxophone, trombone, trumpet, tuba, viola, violin, voice) (63 hours)

In addition to the area of specialization, programs of study are required in two minor fields. One of these will be chosen from areas outside the field of music and may be interdisciplinary in nature. The other will normally be within the field of music, although the substitution of another area may be allowed upon demonstration of acceptable preparation in music. Three public recitals are required to satisfy the performance concentration. The last of these must be a lecture recital on a topic selected by the candidate and approved by his committee. The material covered in this recital will be submitted also as a formal research paper. Each of the recitals must be taped and a copy of the tape placed on file in the library. A summary of the material covered in the lecture recital project, suitable for publication as a research article, must be submitted prior to the final oral examination.

Distribution of hours will normally be as follows:

	HOURS
Applied Music	24
Minor Area in music	18
Electives, to be chosen with the approval of the student's committee	12
Recital	9
2. Composition (60 hours)	
Composition (to include 3 hours of Composition Practicum)	21
Minor Area in music	18
Electives, to be chosen with the approval of the student's committee	12
Dissertation*	9
*This will consist of a work of major proportions.	
3. Sacred Music (60 hours)	
History	9
Musicology	9
Composition	9
Music, Art, Drama	6
Applied Music	24
Recital	3

Specific course distribution is as follows:

HIST 6372 High Middle Ages	3
Electives in History chosen in consultation with major professor	6
MUHL 8410 Symposium in Musicology	9
This is to consist of these topics:	
Paumann to 1650 — 3 hours	
1650-1850 — 3 hours	
1850-present — 3 hours	
Each of these topics requires a non-credit recital.	
MUTC 8501 Composition	9
This is to consist of these topics:	
Choral Composition in 20th Century Style — 3 hours	
Instrumental Composition in 20th Century Style — 3 hours	
Combination Choral and Instrumental Composition in 20th Century Style — 3 hours	
MUHL 8601 Seminar in Music, Art and Drama	6
MUAP 7000/8000 Applied Music	24
Recital	3

4. Musicology-Regional Studies (60 hours)

Students will follow either:

(a) a program providing a broad background in historical musicology culminating in research appropriate to the regional studies thrust of the concentration:

A minimum of eleven courses in the major area	33
Six courses in an approved academic minor other than music	18
Dissertation	9

OR

(b) a program providing a broad background in ethnomusicology:

A minimum of eleven courses in the major area — 33 hours	
MUHL 7400 Bibliography and Research Methods	3
MUHL 7800 Field Methods in Musicology	3
MUHL 8801 Ethnomusicology Theory	3
MUHL 8805 Transcription and Analysis in Ethnomusicology	3
MUHL 8806 Seminar in Southern Regional Music	3
Four of the remaining six courses in music shall have a major focus on southern regional music.	18

Six courses in an approved academic minor area or areas other than music

Dissertation (MUHL 8999)

Specialized courses in music and appropriate related disciplines that support the students research interest will be included.

A reading knowledge of French and German must be demonstrated prior to degree candidacy.

Proficiency requirements in music theory and music history may be waived in the case of students not having undergraduate degrees in music if the student's program of graduate study and research in regional ethnomusicology is continued in a historical or sociological direction. The petition must be initiated by the student, endorsed by the director of graduate studies in ethnomusicology, and approved by the graduate music faculty

before the student has completed 15 hours of graduate study in this program.

5. *Music Education* (61-63 hours)
a. *Music Education* (12 hours)
MUSE 7402/8402 History and Philosophy of Music Education 3
MUSE 7403/8403 A Survey of Research in Music Education 3
MUSE 7207/8207 Tests and Measurements in Music Education 3
Elective Music Education 3
b. *Music History and Literature* (6 hours)
MUHL 7400 Bibliography and Research Methods 3
Elective Music History & Literature 3
c. *Music Theory* (6 hours)
MUTC 7102 Analytical Techniques 3
Elective Music Theory 3
d. *Ensemble* (3 hours) 3
e. *Applied Music* (4 hours)
Individual study Applied Music 4
f. *Education* (12 hours)
EDRS 7541/8541 Statistical Methods Applied to Education 3
One of the following:
Electives EDRS 8522, 8542, 8543 Education chosen from the lists below 6

Based on career goals, two courses are to be chosen from one of the following groups in consultation with the major advisor.

- HIGHER EDUCATION
EDFD 7011/8011 Educational Thought and Practice
EDFD 7112/8112 Adolescent Psychology Applied to Education
EDPS 7121/8121 Learning Theories Applied to Education
CIED 7002/8002 Fundamentals of Curriculum Development
GUID 7622/8622 College Students and College Cultures
EDAS 8190 An Overview of Higher Education
EDAS 8191 The Community College
EDAS 8192 The Organization and Structure of Higher Education
ELEMENTARY, MIDDLE, OR
HIGH SCHOOL SUPERVISION
EDFD 7011/8011 Educational Thought and Practice
EDPS 7111/8111 Child Psychology Applied to Education
EDPS 7112/8112 Adolescent Psychology Applied to Education
EDPS 7121/8121 Learning Theories Applied to Education
CIED 7002/8002 Fundamentals of Curriculum Development
EDAS 7250 Elementary School Supervision
EDAS 7510/8510 Seminar in Educational Leadership
EDAS 7350 High School Supervision 7-9

g. *General Electives* (7-9 hours)
To be determined by the candidate in consultation with the advisor. NOTE: All students who elect the Elementary, Middle or High School Supervision track will be required to complete sufficient courses in education to ensure twenty-one hours of education being completed at the graduate level.

It is recommended but not required that students completing the Higher Education tract complete twenty-one graduate hours in education also.

- h. *Dissertation* (MUSE 8999) 12

K320

COMMERCIAL MUSIC (CMUS)

6602. *Introduction to Commercial Music*. (3). A survey of the music industry; copyright, royalties, producing, labor relations, promotion, advertising, and distribution. [1004-1]
6603. *Proseminar in Commercial Music*. (3). A study of commercial music in a format of lectures and distinguished guests from the industry. Individual projects are required. PREREQUISITE: MUHL 4602/6602 or permission of the instructor. [1009-1]

K307

MUSIC THEORY AND COMPOSITION (MUTC)

6103. *Pop Singing and Arranging*. (1-3). A study of pop singing styles, emphasizing arranging, ensemble techniques, diction phrasing, recording studio techniques. PREREQUISITE: Permission of the instructor. May not be repeated for the purpose of changing the grade originally given. [1004-1]
6202. *Seminar in Music Theory and Analysis*. (3). Theory, counterpoint, and analysis of literature. Contrapuntal and harmonic techniques. Research; theoretical problems from a pedagogical point of view; writing in strict and free styles. Recommended as a review course for graduate students. May not be counted toward any degree program in music except the M.A. and D.M.A. in Musicology with permission of the major advisor. [1004-1]
6501. *Composition*. (2 or 4). Composition in varied forms for large and small ensembles and solo instruments; analysis of contemporary works and practical application of techniques. May be repeated for additional credit. Composition is taught as applied music. Students receive the equivalent of one hour lesson per week. The fee for this instruction is \$50.00 per semester. [1004-8]
7101. *Pedagogy of Theory*. (3). A practical course in classroom procedure. Demonstrations by students and instructor in teaching the rudiments, elementary and advanced theory, various styles of counterpoint, and ear training. A study of various theoretical systems. Bibliography. [1004-1]

7102. *Analytical Techniques*. (3). Techniques of analysis of styles and structure of music from all periods of the history of music. [1004-1]

7103. *Advanced Orchestration*. (3). Investigation of orchestration practices of the great composers from the classical period to the present. Sections of non-orchestral works by representative composers will be orchestrated in the style of the period of their composition. [1004-1]

7201. *Theory I*. (3). A study of styles of the sixteenth, seventeenth and eighteenth centuries. [1004-1]

7202. *Theory II*. (3). A study of classic, romantic, impressionistic and modern styles. [1004-1]

- 7203-8203. *Studies in Music Theory*. (3). Independent investigation of a research procedure or directed reading in selected areas of music theory chosen with consultation of instructor. May be repeated for credit when topic varies. PREREQUISITE: Permission of instructor. [1004-8]

- 7501-8501. *Composition*. (2, 3 or 6). Free composition in all forms. Applicants to this course are required to submit original works in various forms and media as proof of maturity and technical preparation for graduate work. The course may be repeated with the instructor's permission for successive semesters. [1004-8]

Composition is taught as applied music. Students receive the equivalent of two half-hour lessons per week. The fee for this instruction is \$50.

7502. *Electronic Compositional Techniques*. (3). Emphasis on tape manipulation, synthesizer operation, and recording techniques in association with individual compositional projects. [1004-8]

- †7599-8599. *Composition Practicum*. (3-6). [1004-8]

- †7999. *Thesis*. (3-6). [1004-6]

- †8999. *Dissertation*. (3). [1004-7]

†Grades of S, U, or IP will be given.

K304

MUSIC HISTORY AND LITERATURE (MUHL)

6002. *Song Repertory I*. (2). Basic repertoire of old Italian airs and German lieder, as well as an introduction to the French repertoire of the nineteenth century. [1004-8]

6003. *Song Repertory II*. (2). The French art song and solo vocal works of other nationalistic schools as well as English and American song literature. [1004-8]

6407. *The Opera and the Music Drama*. (3). A survey of the opera before Richard Wagner; study of Wagner's music dramas and opera of his contemporaries; dramatic and musical significance of each phase of the development of the two forms. PREREQUISITE: Permission of the instructor. [1004-1]

6408. *Style Periods in Music History*. (3). Music and historical data from various periods of Western musical history. May be repeated for credit when the topic varies. [1006-1]

001. MEDIEVAL MUSIC

002. RENAISSANCE MUSIC

003. BAROQUE MUSIC

004. CLASSIC MUSIC

005. ROMANTIC MUSIC

006. 20th CENTURY MUSIC

6800. *World Musical Styles*. (3). Musical styles and the role of music performance in preliterate and folk societies throughout the world. [1006-1]

6801. *American Folk and Popular Music*. (3). Folk and popular elements in American music. The role of mass media, especially the phonograph record, in utilizing and changing folk music. The historical development and interrelationships between various musical styles ranging from nineteenth century minstrelsy to the roots of rock and roll. Emphasis on southern Anglo-American and Afro-American folk and popular musical styles. [1006-1]

6802. *Topics in American Folk and Popular Music*. (3). The characteristics and development of a particular form of American folk or popular music. Topics will include: Afro-American Folk Music, Blues, American Folk Spiritual and Gospel Music, Anglo-American Folk Music, Country and Western Music, Rock and Roll Music. May be repeated for credit when the topic varies. [1006-1]

7001. *Opera Repertory I*. (3). A study of operatic repertory from its beginning through the operas of Rossini and Donizetti. Particular emphasis will be given to roles suitable for the voice category of the individual student. [1006-1]

7002. *Opera Repertory II*. (3). A study of operatic repertory beginning with Verdi and continuing to present time. Emphasis will be given to roles suitable for the voice category of the individual student. [1006-1]

7301. *History of Music to 1700*. (3). Principal events in the evolution of the techniques of Western musical composition, music theory, aesthetics, and musical styles. May not be used to apply to degree requirements in any major in the M.M., M.Ed. in Music Education, or the D.M.A. (with the exception of the major in Musicology). May be used by students in the M.A. program and the D.M.A. in Musicology (Regional Studies) with permission of the major professor and the coordinator of music history division. [1006-1]

7302. *History of Music since 1700*. (3). Continuation of MUHL 7301. The same restrictions apply. [1006-1]

7400. *Bibliography and Research Methods*. (3). A survey of the fields of historical and systematic investigation in music with bibliographical studies and research analysis. Required of all students who intend to write a thesis. [1006-1]

- 7407-8407. *Studies in Music History*. (3). May be repeated for credit when topics vary. Topics may be selected from the following: Sonata History, Opera History, 19th Century Art Song, The Polyphonic Mass to 1800; Cantata History; Symphony History; Brahms; Mozart; Bach; Beethoven; Debussy-Ravel; Schoenberg-Stravinsky; Chamber Music. [1006-1]

001. DEBUSSY-RAVEL

002. CHAMBER MUSIC

003. VERDI-WAGNER

004. STRAVINSKY-SCHOENBERG

7408. *Studies in Musicology*. (3-6). Independent investigation of a research problem, or directed reading in selected areas of musicology chosen in consultation with the instructor. PREREQUISITE: Permission of the instructor. [1006-8]

- 7601-8601. *Seminar in Music, Art, and Drama I*. (3). This course is designed to show the relation between art work which have inspired musical composition, to study musical scenes appearing in paintings, and to study musical portraits in art. The study also includes consideration of the particular the masque, cour de ballet, staged oratorios and contemporary music dramas and religious operas. [1006-1]

- 7602-8602. *Seminar in Music, Art, and Drama II*. (3). A continuation of MUHL 7601-8601. [1006-1]

7800. *Field Methods in Ethnomusicology*. (3). An exploration techniques for designing field research subjects and gathering information in the field. Special attention will be given to techniques and problems related to the study of southern musical traditions. [1006-1]

- 7802-8802. *Studies in Ethnomusicology*. (3). Seminars in selected topics. May be repeated for credit when the topic varies. [1006-1]

7803. *Individual Research in Ethnomusicology*. (3). Individual research on a selected topic under faculty supervision. May be repeated if the topic varies. Only 3 hours credit may be applied toward a master's degree and only 6 hours credit toward a doctoral degree. [1006-8]

7804. *Internship in Southern Regional Music*. (3). Practical experience in the application of knowledge and skills learned through the study of Southern regional music. The student will do supervised work in an area of music production, presentation, administration, or education for a public agency or in the private sector. This course may be repeated with a different type of internship, but only 3 credit hours may be applied toward any degree. PREREQUISITE: 18 credit hours in Ethnomusicology or Southern Regional Music. [1006-5]

- †7999. *Thesis*. (1-6). [1006-6]

8410. *Symposium in Musicology*. (3). Topics may be selected from the following:

001. CHURCH MUSIC FROM PAUMANN TO 1650.

002. CHURCH MUSIC FROM 1650-1850.

003. CHURCH MUSIC FROM 1850-PRESENT.

004. HISTORY OF CHURCH MUSIC IN THE MID-SOUTH.

8411. *Seminar in Music History*. (3). May be repeated for credit when topics vary. [1006-1]

8801. *Ethnomusicology*. (3). A survey of concepts, problems and methods of research in the interpretation of music in different social groups. Emphasis will be placed on functional and popular music rather than art music, and on cultures other than Western European and North American. [1006-1]

8805. *Transcription and Analysis in Ethnomusicology*. (3). Examination of the problems and methods of transcribing and analyzing non-Western and traditional music; the uses and limitations of staff notation; alternative descriptive systems. [1006-1]

8806. *Seminar in Southern Regional Music*. (3). Major issues in the study of southern folk and popular music. Among the topics will be the relationship of the music to the history and culture of the region, the relationship between Afro-American and Anglo-American styles and traditions, the relationships of these styles and traditions to African and European music, and the interplay of traditionalism and commercialism in southern music. PREREQUISITES: Completion of 18 graduate level credit hours in music, including MUHL 7400 and MUHL 6801. [1006-1]

- †8999. *Dissertation*. (3). [1006-7]

†Grades of S, U, or IP will be given.

K316 SACRED MUSIC (MUSA)

6001. *Judeo-Christian Music*. (3). History of Church Music from Temple to 1000 A.D. Considerable emphasis on Hebrew music as related in Scripture and the form and use of sacred music in the present day temples. Music for Sabbath and festival services. [1006-1]

6801. *Studies in Sacred Music*. (1-3). Directed individual class study in selected areas of music chosen in consultation with instructor. May be repeated for credit with permission of department chairman. Maximum of 6 hours credit allowed. [2303-1,8]

7001. *Oratorio and Cantata*. (3). A study of the larger musical forms of the Church with performances by performing major. An analytical study of style in performance and in content suggested use of instruments in addition to the organ. PREREQUISITE: Graduate standing in music. [1006-1]

7101. *Church Music Arranging*. (3). A course designed to train the student in the devices of creating anthems from hymn tunes, some choral arranging for special church needs, and instrumentation for ensembles which would be added to the fundamental use of the organ. Useful in creating Biblical music productions for service and festival occasions. PREREQUISITE: Graduate standing in music. [1008-8]

7201. *The Church and Music Education*. (3). A comprehensive program constructed to enable a church musician to prepare programs, study courses, and musical activities designed specifically to educate the taste of various congregations at all levels. PREREQUISITE: Graduate standing in music. [10832-2]

- 7801-8801. *Studies in Sacred Music*. (1-3). Directed individual or class study in selected areas of music chosen in consultation with instructor. May be repeated for credit with permission of department chairman. May be repeated for a maximum of 6 hours credit. [2303-1,8]

K313 MUSIC EDUCATION (MUSE)

001. Orff-Schulwerk Workshop for Classroom Teachers. (3). A broad, practical introduction to the use of the Orff Schulwerk method of elementary music teaching. Development of performance leadership skills stressed. Not open to music majors. **PREREQUISITE:** One course in music methods or equivalent in experience. [0832-1]

002. Orff-Schulwerk Workshop for Classroom Teachers. (3). Second level Orff Workshop course for non-music majors. Emphasis is placed on the process of teaching; includes rhythmic training, elementary solfeggio, exploration of folk song materials suitable for children, and development of lesson plans. **PREREQUISITES:** Successful completion of Level I Orff Schulwerk Workshop for Classroom Teachers and rudimentary skills on soprano recorder. [0832-1]

001. Special Problems in the Teaching of Music. (1-3). This course provides for class or individual study of the problems and opportunities faced by the person who teaches music in the schools; for classroom teachers, music teachers, supervisors, principals, and administrators. May be repeated for up to 6 hours credit. [0832-1,8]

005. Marching Band Techniques. (2). Organizing and conducting the marching band; gridiron charting and marching procedures with a study of precision drill, formation, and pageantry. [832-1]

006. Music for Exceptional Children. (3). A review of the types of exceptional children and the implications for providing realistic musical activities in the classroom. Emphasis will be placed on the use of music as a tool in reaching non-musical goals such as language development, social adjustment, motor coordination, aural and visual perception. (Team-taught with Special Education). **PREREQUISITES:** SPER 2000 for music education majors; MUSE 3001 for special education majors OR permission of instructors.

008. Band Literature. (3). History and evolution of wind instruments and wind instrument playing; history and development of the wind band and its literature, with general background material on the specific composers involved. [0832-1]

001. Choral Arranging. (3). A practical experience in making arrangements for choral ensembles and organizations. Vocal parts involved and techniques of meeting them, including class performance and evaluation of assigned projects. [832-1]

004. String Pedagogy. (3). A study of various methods of teaching strings with special emphasis on contemporary theories of pedagogy; observation and laboratory teaching in MSU Prep Department and the Suzuki Talent Education Division. For string majors. **PREREQUISITE:** Permission of instructor. [0832-1]

005. Principles of Accompanying. (3). Performance class involving practical study of instrumental and vocal standard repertory and problems of ensemble playing; encourages facility in sight-reading and the ability to assimilate music rapidly; score-reading, transposition, and figured-bass realization are introduced as skills necessary to well-rounded musicianship. **PREREQUISITE:** Permission of instructor. [0832-1]

006. Introduction to Suzuki Talent Education for Strings. (3). Required of students who plan to serve as apprentice string teachers in the MSU Suzuki Talent Education program. Basic instruction in the Suzuki philosophy; participation with parents of children in Suzuki string classes. [0832-1]

008. Principles of Suzuki Piano. (3). Suzuki philosophy as applied to the development of the child's abilities and the role of teacher and the parent. Analysis of the technical and musical instruction of the beginning piano student. [0832-1]

001. Teaching Music Comprehensively. (3). A methods course designed to bring music theory, history, literature, performance, composition, and analysis to bear on the teaching of music at any level — elementary, junior high, high school, college, or private studio. [0832-1]

002. Introductory Workshop in Orff-Schulwerk. (1-3). A study of basic Orff-Schulwerk techniques including body movement, piano recorder, percussion, vocal performance, improvisation, and arranging. **PREREQUISITE:** Graduate standing in Music. [0832-1]

003. Intermediate Workshop in Orff-Schulwerk. (1-3). A study of intermediate level Orff-Schulwerk techniques including harmonization, irregular rhythms, alto recorder, performance, and more extensive improvisation and arranging. **PREREQUISITE:** MUSE 4802 or 6802 or the equivalent. [0832-1]

004. Teachers Workshop in Orff-Schulwerk. (1-3). A study of advanced Orff-Schulwerk techniques including original compositions, complex form, movement and instrumental arrangements, tenor and bass recorder performance, and advanced improvisation. **PREREQUISITE:** MUSE 4803 or 6803 or the equivalent. [0832-1]

005. Workshop in Double Reed Techniques. (3). For students who are not specialists on oboe or bassoon; pedagogical and technical problems peculiar to double reed instruments; reed-reading and adjusting. A set of tools basic to making reeds is provided. [0832-1]

002. Music in Early Childhood. (3). Experimental and traditional music activities and teaching strategies designed to integrate the world of formal and informal sound into the three to five year old's life. Open to all College of Education majors. [0832-1]

003. Choral Literature and Techniques. (3). A survey of choral literature from Dunstable to the present, using scores, recordings, and class performance. Analysis of the scores in terms of style, form, and performance problems. Techniques of teaching and conducting unfamiliar styles. [0832-1]

004. Instrumental Literature and Techniques. (3). Specific intensive research in each student's major instrument, covering (1) history of the instrument, (2) tests, methods and periods, (3) orchestral studies, (4) solo and ensemble literature, (5) listening and performance. [0832-1]

7205. Music Curriculum Development for Pre-School and Elementary School. (3). The study and appraisal of contemporary teaching approaches including Dalcroze, Orff-Schulwerk and Kodaly; development of curriculum plans in a sequential manner for the K-6 student. **PREREQUISITE:** One course in Orff-Schulwerk or equivalent experience. [0832-1]

7207-8207. Tests and Measurements in Music Education. (3). The investigation of evaluative tools in music education, formulation and utilization of measurement devices in music teaching and research. [0832-1]

7208-8208. Administration and Supervision of Music. (3). An integrating course which involves the administrative considerations basic to all facets of music education programs, K-12. Objectives, organization, staffing, financing, facilities, public relations. Federal programs. Includes laboratory field experience. [0832-1]

7210-8210. Projects in Elementary Music Curriculum Development, Implementation and Supervision. (3). Individualized in-depth study of a selected area in elementary school music education. Topics may include curriculum, program planning and development, evaluation of current practices, exploration of new or related fields. **PREREQUISITE:** Permission of instructor. [0832-1]

7211-8211. Projects in Secondary Music Curriculum Development, Implementation and Supervision. (3). Individualized in-depth study of a selected area in secondary school music education, vocal or instrumental. Topics may include curriculum, program planning and development, evaluation of current practices, exploration of new or related fields. **PREREQUISITE:** Permission of instructor. [0832-1]

7212-8212. Music Administration in Higher Education. (3). Current techniques of junior and 4-year college Music Department organization — curriculum development, workshops, non-credit education, facility planning, financing, staffing patterns, community relations, leadership. [0832-1]

7213. Orchestration for Orff Instrumentarium. (3). An analysis of techniques used to orchestrate for Orff instruments as done in Europe, Asia, North and South America; original orchestrations in the elemental Orff style. **PREREQUISITE:** MUSE 4803-6803 or permission of the instructor. [1004-1]

7214. Master Class in Orff-Schulwerk. (3). Advanced pedagogy based on Orff-Schulwerk principles; designed to train workshop clinicians. Training includes orchestration techniques, otogenic treatment of rhythm and melody, movement improvisation and recorder playing. **PREREQUISITE:** MUSE 4804-6804 or equivalent experience. [0832-1]

†7215. Internship in Orff-Schulwerk. (3). A laboratory experience for the student, with assignment to a local elementary school where he will work with an Orff-trained music specialist. The student will be asked to design a specific project capable of being completed in a semester's time. The project will be supervised and evaluated by a faculty member in the elementary music education department. [0832-5]

7402-8402. History and Philosophy of Music Education. (3). An examination of the historical and philosophical foundations which underline the curricula and instructional programs in music. [0832-1]

7403-8403. A Survey of Research in Music Education. (3). Designed to acquaint students with theoretical and practical field research; to refine writing skills; to hypothesize and to develop potential research problems. [0832-1]

7501. Vocal Pedagogy I. (3). Processes in voice production, respiration, phonation, articulation, resonance. Psychological, physiological, and acoustical problems. Voice classification, quality, diction, breath support, breath control. [0832-1]

7502. Vocal Pedagogy II. (3). A study of different approaches to the teaching of voice including the observation of faculty members instructing students. Assignment of students to each member of the class for supervised teaching. **PREREQUISITE:** MUSE 7501. [0832-1]

7504. Suzuki Piano Literature and Technique I. (3). Analysis of the technique and musicianship to be taught to the Suzuki student in the first four volumes of the literature; particular emphasis on understanding the developmental process of achieving good tone, finger strength, hand position, and rhythmic and musical sense, both aural and written. **PREREQUISITE:** MUSE 7503 or permission of instructor. [0832-1]

7505. Suzuki Piano Literature and Technique II. (3). Continuation of Techniques I to cover the advanced technique and understanding of musical styles required for the literature in Vol. 5 and 6 and supplementary material. **PREREQUISITE:** MUSE 7504 or permission of instructor. [0832-1]

7506. Projects in Suzuki Teaching. (3). Individually assigned projects involving teaching under supervision; application of the knowledge acquired in the classroom. [0832-8]

7701. Advanced Conducting. (3). Conducting the concert band, the symphony orchestra, and the chorus in the larger musical forms. Emphasis on interpretation. **PREREQUISITE:** Permission of instructor. [1004-1]

†7999. Thesis. (3-6). [0832-6]

†8999. Dissertation. (3). [0832-7]

†Grades of S, U, or IP will be given.

K318 APPLIED MUSIC (MUAP)

6801. Studies in Applied Music. (1-3). Directed individual or class instruction in an applied area not listed under the MUAP course prefix. May not exceed 6 hours credit. [1004-8]

7001. Large Graduate Ensemble. (1). [1004-8]

001. WIND ENSEMBLE
002. ORCHESTRA
003. OPERA CHORUS
004. ORATORIO CHORUS

Instrument	Music Education Majors, Applied Music Minors, Applied Music Electives. No Recital Required 2 Hours Credit	Applied Music Majors Applied Music Minors, Applied Music Electives. Recital Required 2-6 Hours Credit	Lecture Recital* 3 Hours Credit†	Recital* 1-3 Hours Credit†
Trumpet	6111	7111/8111	7117/8117	7119/8119
Horn	6121	7121/8212	7127/8127	7129/8129
Trombone	6131	7131/8131	7137/8137	7139/8139
Tuba	6141	7141/8141	7147/8147	7149/8149
Piano	6311	7311/8311	7317/8317	7319/8319
Harp	6321	7321/8321	7327/8327	7329/8329
Organ	6331	7331/8331	7337/8337	7339/8339
Percussion	6411	7411/8411	7417/8417	7419/8419
Violin	6511	7511/8511	7517/8517	7519/8519
Viola	6521	7521/8521	7527/8527	7529/8529
Cello	6531	7531/8531	7537/8537	7539/8539
Bass	6541	7541/8541	7547/8547	7549/8549
Guitar	6551	7551	7557	7559
Harp	6561	7561	7567	7569
Viola da Gamba	6571	7571	7577	7579
Voice	6611	7611/8611	7617/8617	7619/8619
Flute	6711	7711/8711	7717/8717	7719/8719
Oboe	6721	7721/8721	7727/8727	7729/8729
Clarinet	6731	7731/8731	7737/8737	7739/8739
Saxophone	6741	7741/8741	7747/8747	7749/8749
Bassoon	6751	7751/8751	7757/8757	7759/8759

*Must be concurrently enrolled in an appropriate applied music course.

†Grades of S, U, or IP will be given. [1004-8]

005. CONCERT CHOIR
006. CHORALE
007. GLEE CLUB
008. CONCERT BAND

7002. Chamber Music. (1). [1004-8]

7003. Small Graduate Ensemble. (1). [1004-8]

001. JAZZ BAND
002. COLLEGIUM MUSICUM
003. STRING ENSEMBLE
004. BRASS ENSEMBLE
005. PERCUSSION ENSEMBLE
006. WOODWIND ENSEMBLE
007. CONTEMPORARY CHAMBER PLAYERS
008. OPERA SOLOISTS
009. CAMERATA SINGERS
010. ORFF ENSEMBLE
011. JAZZ COMBO

7099. Chamber Music Recital. (1). [1004-8]

7620. Independent Study in Symphonic and Operatic Conducting. (3). A detailed study of advanced conducting techniques including styles, mechanics, score reading and preparation, and rehearsal techniques and organization. Practical experience in orchestral and operatic conducting. PREREQUISITES: MUAP 7701 and/or permission of instructor. [1004-8]

7621. Independent Study in Scenic and Lighting Design for the Lyric Stage. (3). A detailed study of scenic and lighting design for the Lyric Stage. Practical projects in both scenic and lighting design. PREREQUISITES: MUAP 7623 and/or permission of instructor. [1004-8]

7622. Independent Project in Opera Direction. (3). Actual staging or musical direction of an opera workshop or opera theatre production. May be repeated for credit. PREREQUISITES: MUAP 7623 and permission of instructor. [1004-8]

7623. Independent Study in Opera and Musical Theatre Production. (3). A detailed study of opera and musical theatre production to include choosing of repertoire, translations, budget planning, casting, obtaining of materials, and promotion. Practical experience in the technical aspects of opera and musical theatre. (May be repeated for credit.) PREREQUISITE: Permission of instructor. [1004-8]

7699. Production Practicum. (3-6). Required of majors in Opera and Conducting and Opera Production and Directing. [1004-8]

8002. Seminar in Performance Problems. (3). The study of literature and material for the performances necessary to prepare for the qualifying examination. Preparation of the dissertation recitals. PREREQUISITE: Admission to curriculum in performance. May be repeated for credit. [1004-8]

†Grades of S, U, or IP will be given.

(INDIVIDUAL LESSONS)

FEE: See Chapter 3 of this bulletin. Fees are paid to the University at the office of the Business Manager. CREDITS AND GRADES: A full hour lesson will be given all persons enrolled in graduate applied music, regardless of credit-hours awarded. Music Education majors, applied music minors, and applied music electives will be allowed to register for two hours of credit only. Applied majors may register for two to six hours of credit, as permitted. Grades are awarded in accordance with the jury system and have the same significance as in any other subject. All graduate applied music juries shall be scheduled for fifteen minutes.

REGISTRATION: Students will register for individual lessons at the same time and the same manner that they register for other courses.

Individual Lessons may be repeated for credit in subsequent semesters, but not for the purpose of improving the grade originally earned.

THEATRE AND COMMUNICATION ARTS

PROFESSOR MICHAEL OSBORN, *Chairman*

Room 143, Theatre and Communication Arts
Building

DR. MARVIN BENSMAN, *Coordinator of
Graduate Studies*

I. The Department of Theatre and Communication Arts offers graduate programs leading to the Master of Arts degree with a major in Communication with concentrations in: (1) Radio-TV-Film, (2) Rhetoric and Communication Arts, (3) Theatre; and the Master of Fine Arts degree with a major in Theatre for areas of study in Performance or Production. Major topics of study for the Master of Arts degree are: Acting, Directing, Oral Interpretation, Design, Theatre Technology, Theatre History and Criticism, Broadcasting History and Criticism, Rhetorical and Communication Theory, Film History and Criticism, History and Criticism of Public Communication, Rhetorical Theory, and Radio-Television-Film Production and Aesthetics. These areas are offered by the two major areas of the Department, Communication Studies and Theatre.

II. M.A. Degree Program

A. Program Requirements

1. Successful completion of 30 hours of graduate credit including a Thesis or Production Practicum, or 36 hours of graduate courses. Permission to pursue the Thesis or Production Practicum

option must be obtained from the Departmental Graduate Studies Committee.

2. a. Students with a concentration in *Theatre* are required to take the following core courses:

7100 — Bibliography and Methods of Research

OR

7330 — Introduction to Research in Communication (if Thesis option chosen),

6582 Analysis of Dramatic Literature, 7554 Seminar in Directing, 7564 Scenography

b. *Rhetoric and Communication Arts Concentration* (select two of the following): 6371 Rhetorical Criticism, 7330 Introduction to Research in Communication, 7331 Seminar in Communication Theory, 7360 Seminar in Rhetorical Theory.

c. *Radio-TV-Film Concentration* (select two of the following): 6371 Rhetorical Criticism, 7330 Introduction to Research in Communication, 7331 Seminar in Communication Theory, 7360 Seminar in Rhetorical Theory.

3. Satisfactory performance on oral and written comprehensive examinations as administered by the student's committee.

4. Completion of all Program Procedures in the manner prescribed below, including all special requirements established by the student's committee.

B. Program Procedures

1. *Initial Advising.* Before enrolling as a major in any graduate courses, the student must meet with the Director of Theatre or Director of Communication Studies (depending upon area in which degree is desired). This interview will determine the general direction of the student's program, initial registration, and the amount and kind of remedial work which may be required. These determinations will be recorded on the Plan of Study form filed with the Department Secretary.

2. *Advisory Committee.* Before nine weeks of the first semester have been completed, or before completing twelve hours in a part-time program, the student's Advisory Committee will hold its initial meeting. The Committee includes three University faculty members, two of whom must be members of the Graduate Faculty, and one of whom is designated as the Chairperson. The Committee shall have four major functions:

a. To approve the Plan of Study. This will normally be the major business of the first meeting.

b. To review academic progress, and at its option, to administer a qualifying examination before the completion of 15 hours of graduate credit in order to determine whether the student shall continue in the program.

c. To determine the concentration areas, and to administer comprehensive examinations on these areas at the completion of coursework.

d. To approve a request to elect the thesis option. The student should submit a thesis proposal to the Committee before the completion of 15 hours of graduate work, according to specifications provided by the Department.

e. The Advisory Committee shall meet at least once each semester during a student's active program.

f. For further details on all the above requirements, see the Department's "Procedures for Graduate Students." The student must assume responsibility for knowing and meeting all requirements of the Graduate School and the Department of Theatre and Communication Arts.

III. M.F.A. Degree Program

The program for the Master of Fine Arts in Theatre normally takes two and a half years to complete the required 42 hours, maximum semester load in this program is 9.

A. Program Admission

Unconditional admission to the M.F.A. program is based on the following criteria:

1. An overall undergraduate grade point average of 2.75 from an accredited undergraduate institution.

2. A grade point average of at least 3.0 in the last 60 hours of Undergraduate work.

3. A grade point average of at least 3.5 in the undergraduate major.

4. Acceptable scores on the Graduate Record Examination or the Miller Analogy Test.

5. Satisfactory completion of a qualifying audition within the first six months of study.

6. Transfer credit. Up to 21 hours of graduate credit at the discretion of the student's advisory committee.

B. Admission to Candidacy

The student may apply for admission to the M.F.A. degree candidacy upon the successful completion of nine graduate hours in the core curriculum. To be approved for admission to candidacy the student shall have:

1. A grade point average of at least 3.0 on a 4.0 system.

2. Removed all prerequisite departmental requirements.

3. Demonstrated a requisite level of competence through a qualifying examination.

4. A planned program which meets all departmental and graduate school requirements.

C. Program Requirements

1. All students in this program are required to take the following core courses:

6582 — Analysis of Dramatic Literature

7554 — Seminar in Directing

7564 — Principles of Scenography

2. Satisfactory completion of a major artistic production practicum.

3. Satisfactory performance on written and oral comprehensive examinations as administered by the student's committee.

4. Satisfactory completion of 42 hours of graduate work, of which at least 18 hours must be at the 7000 level.

K493 COMMUNICATION (COMM)

6101. *Contemporary Theories of Language.* (3). Influence of language upon behavior, of the limitations of language as a

communicative system, and of the relationships between language and thought. [1506-1]

6341. *Interpersonal and Small Group Communications.* (3). A varied theory in the logical, psychological, and sociological investigation of issues in small groups. [0601-8]

6361. *History and Criticism of British Public Address.* (3). British speakers and speaking from the 16th century to the present time. Emphasis on the speech situation, audience, issues and speakers; such men as Fox, Pitt, Sheridan, Burke, De la Ræ, and Churchill. May be repeated to a maximum of 6 credits with permission of instructor. [0601-1]

6362. *History and Criticism of American Public Address.* (3). Analysis of political, religious and social speaking from colonial times to the present. Such men as Clay, Emerson, Lincoln, Webster, and the Roosevelts. May be repeated for a maximum of 6 credits with permission of the instructor. [1506-1]

6367. *International Communication.* (3). An analysis of the of communication, especially rhetorical communication, in decision-making, information, and propaganda of foreign policy issues. Special emphasis on executive-congressional foreign policy debates, diplomatic rhetoric, and information systems within a foreign policy crisis context. [1506-1]

6371. *Rhetorical Criticism.* (3). Problems in the theory and criticism of classical and modern rhetorical works; application of the principles of rhetoric to the critical evaluations of current public speaking practice. [1506-1]

6373. *Interracial Communication.* (3). The social problems encountered in communication between blacks and whites. Readings, discussion, and field study on how prejudice, stereotypes, and self-concepts can affect communication. Exploration of rhetorical methods to minimize these problems. [0601-1]

6374. *Directed Studies in Communication Arts.* (3). Independent research in areas of special interest including rhetoric, radio, television, and film. PREREQUISITE: Permission of the instructor. [0601-8]

6375. *Intercultural Communication.* (3). Communication interactions and functions between and among people with different national/cultural backgrounds. [0601-1]

6704. *Theories of Communication.* (3). (Same as Journalism 6704). Comparison of theories offered to explain the character or effects of mass communication media ranging from Sturges-Response Theory to Agenda-Setting Theory. [0601-1]

6802. *Internship.* (1-3). Field studies in communication. Supervised practical work with a government institution, film company, or TV station. Written analysis of experience required. PREREQUISITE: Permission of Area Head. May be repeated a maximum of 6 hours credit. [0603-5]

6810. *Broadcast Regulation and Program Policy.* (3). Effects F.C.C. and other governmental regulation upon broadcast management and station operations. Topics: licensing, renewals, content control, obscenity, fairness, politics, and copyright. [0603-1]

6811. *Radio and Television Programming.* (3). Analysis of individual program formats (with examples); use of this information along with ratings and other audience research to study design of program schedules. [0603-1]

6824. *Cinematography/Videography.* (3). Art of visual interaction with a strong concentration in the theory and technique of lighting. Experience with professional film and video cameras and lighting equipment. PREREQUISITE: Permission of the instructor. [0603-1]

6825. *Creative Editing of Film and Video Tape.* (3). Technique of editing single and double system film and video tape. Overview of the total post-production process with concentration primarily on the aesthetics of continuity. PREREQUISITES: COMM 3823 and COMM 3824. [0605-1]

6831. *Radio and Television Sales and Advertising.* (3). The nature of radio and television advertising to the station, network and station representative; the role of sponsors, agencies and other allied groups. [0603-1]

6842. *Advanced Television Production.* (3). Advanced techniques of studio and small-format TV production including staging and direction of programs. [0603-8]

6851. *Development of Contemporary Film.* (3). Theatrical film from 1925 to the present. Study and critique of selected films. [0603-1]

6852. *Origins of Film.* (3). The origins and growth of the motion picture industry through the silent film era. Study and critique of selected films. [0603-1]

6853. *Documentary Film in Film.* (3). History and criticism of documentary, educational, and industrial films. Study of non-fiction film. [0603-1]

6854. *Documentary Form in Broadcasting.* (3). History and criticism of non-fiction broadcasting and cablecasting. [0603-1]

6857. *History of American Broadcasting.* (3). History of broadcasting industry in the United States as it developed from 1895 to the present. Use of primary sources. [0603-1]

6871. *Radio and Television Station Management.* (3). Theory of management; study and analysis of the special problems situations confronting the manager of the broadcasting station in personnel, operations, government regulations, programming and sales. [0603-8]

6892. *Film Production.* (3). The operation of 16 mm silent sound cameras, continuity principles, composition, and lighting, sound recording and basic editing techniques. [0603-8]

6922. *Directing the Forensics Program.* (3). Designed for teacher charged with the responsibility of developing and directing interscholastic or intercollegiate competitive speech programs; the historical background for such programs, organizing techniques, recruiting, tournament direction, and other related concerns. [1506-1]

7330. *Introduction to Research in Communication.* (3). Survey of research methodologies and types of research in the field of communication. Evaluation of selected studies in communication. Introduction to principles for thesis preparation. [0601-1]

Theatre & Communication Arts

1. Seminar in Communication Theory. (3). Current multidisciplinary communication theories, models, systems, dynamics, trends, breakdowns. Methodological approaches to studying communication behavior. Topics vary each semester. May be repeated for a maximum of 6 credits. [1007-1]

2. Seminar in Rhetorical Theory. (3). Intensive studies of development of rhetorical theory from c. 500 B.C. to the present. Topics will vary each semester. May be repeated for a maximum of 9 credits. [1506-1]

3. Seminar in Public Address. (3). Intensive study of selected topics in the analysis and criticism of public arguments, emphasis on cross-cultural comparison of arguments and applications in common rhetorical situations. May be repeated for a maximum of 6 credits. [1506-1]

4. Systems of Argument. (3). Intensive study of argument means of inquiry and persuasion in rhetorical and dialectical discourse. Explorations of relationships between theories of argument and forms of speech such as political and legal oratory, discussion, and debate. Readings will be selected from Aristotle, Cicero, Kant, Whately, Burke, Schopenhauer, Toulmin, Ayre, et al. [1506-1]

5. The Rhetoric of Literature. (3). Rhetorical elements in literary discourse and the approach to such discourse through techniques of rhetorical criticism. Special attention to dramatic literature. [1506-1]

6. Seminar in Rhetoric and Poetic. (3). Examination of the relationships between predominantly persuasive and fictive uses of discourse. [1506-1]

7. Macrorhetoric. (3). Relationships between public deliberation, propaganda, and social change. Emphasis on movement of ideas, the formation and function of ideologies, strategies and tactics of agitation, and the process of public value formation. [1506-1]

8. Seminar in Media Criticism. (3). Application of critical theories to media content, particularly plays, television programming, speeches and films. May be repeated for a maximum of 6 credits. [1007-1]

9. Seminar: Literature of Mass Communication. (3). Literature of mass communications. Topic area will vary each time offered. May be repeated for a maximum of 6 hours credit. [1007-1]

10. Seminar: Trends in Mass Communication. (3). Critical issues facing communications today. Topics will vary each time offered. May be repeated for a maximum of 6 credits. [1007-1]

11. Seminar: Mass Communication Research and Theory. (3). Specialized areas of mass communication research and theory with an analysis of the tools necessary for studies of a critical, theoretical and statistical nature. Topics will vary each time offered. May be repeated for a maximum of 6 credits. [1007-1]

12. Seminar: Mass Communication and Society. (3). Interrelationships between mass communications, the individual and society. Topics will vary each time offered. May be repeated for a maximum of 6 credits. [1007-1]

13. Seminar in Communication History. (3). In-depth study of selected topics in the history of communication, including radio, address, film, and broadcasting. May be repeated for a maximum of 6 credits. [1007-1]

14. Techniques for Television Teaching. (3). Techniques involved in producing, teaching, and classroom utilization of instructional lessons, emphasizing the use of visual materials, teacher's appearance on camera, and methods of lesson organization, with practical experience in the television studio. [1007-1]

15. Advanced Film and Video Production. (3). Integration of aspects of production with varying production styles and techniques. Designed for students who have had experience with technical aspects of film and video production. PREREQUISITE: M 4892-6892 or permission of instructor. [0605-1]

16. Seminar in Problems in Speech Education. (3). Special studies of selected current problems. Individual studies will be conducted with group analysis and discussion at regular class meetings. [1506-1]

17. Seminar in Comparative Media. (3). To demonstrate through intensive analysis what happens to the form and content of a creative work in its various adaptations: novel, condensation, stage, movie, and television. Open to all Theatre and Communication Arts majors and English majors. [1007-1]

K491 THEATRE (THEA)

1. Interpretation of Children's Literature. (3). Adaptation of literature for individual and group performances in children's theatre and its use for instruction in elementary and secondary schools. Topics include: styles of literature, principles of performance, and techniques for performance adaptation. May be repeated for a maximum of 6 credits with permission of instructor. [1007-1]

2. Stage Dialects. (3). Study and practice of foreign dialects in the American stage. Offered alternate years. [1007-1]

3. Interpretation of Poetry. (3). The performer's response to the relationship between the style and views of reality in the poetry of the Elizabethan-Metaphysical, Romantic, Victorian, and Modern periods. [1007-1]

4. Interpretation of The Novel. (3). The oral interpretation of prose fiction, with attention to various literary styles and techniques. PREREQUISITE: THEA 3411. [1007-1]

6441. Interpretation of Drama. (3). Oral performance of scenes from classical and modern drama. [1007-1]

6451. Interpretation of Shakespeare. (3). Oral presentation of scenes from selected comedies, histories, and tragedies, with exploration of character and dramatic structure. [1007-1]

6501. Advanced Movement Styles. (3). Further development of technique and refinement of personal as well as period styles. [1007-1]

6502. Ensemble Movement. (3). The performance troupe blends improvisational techniques, voice, mime, acting, and physical movement. PREREQUISITE: Permission of the instructor. [1007-1]

6503. Creative Dramatics. (3). Basic techniques and theories for the use of dramatization in elementary and secondary education. Topics include socio-drama, dramatization of school subjects and daily concerns, and improvisation and creation of dramatic plays. [1007-1]

6515. Scene Painting. (3). Lecture-laboratory course covering the techniques of painting flat scenery for the stage. Offered alternate years. [1007-1]

6516. Technical Direction. (3). Lecture/laboratory for theatre technicians to include production organization and safety, engineering, rigging, materials control and supply ordering. Offered alternate years. [1007-1]

6517. Materials and Technology. (3). Lecture/laboratory course with a general introduction to materials to include carpentry and lumber, metalworking and welding, fiberglass construction and casting, rigid and flexible foams and thermoplastics. Offered alternate years. [1007-1]

6518. Special Technologies. (3). Lecture/seminar/practicum in-depth investigation of selected technologies as they apply to theatre. The technologies in their natural environment and in their relation to the theatrical environment. Topics selected from: pneumatics, hydraulics, plastics, metalworking, wood-working, rigging, electrical and electronic systems, computers, and others. Offered alternate years. PREREQUISITE: Permission of the instructor. [1007-1]

6521. Advanced Directing. (3). Opportunity to experiment with directing original plays, adaptations, and period styles. Productions of the class provide the menu for the Lunchbox Theatre Program. May be repeated for a maximum of 6 credits. [1007-8]

6523. Children's Theatre. (3). Theories and styles of children's theatre, application of principles to problems in production and preparation of plays designed for children's audiences. May be repeated for a maximum of 6 credits. [1007-1]

6531. Acting Styles. (3). The development of acting styles as influenced by the environments of historical periods. [1007-8]

6532. Advanced Acting Styles. (3). Continued work in acting styles. [1007-8]

6551. Theatre History — Classic. (3). Shaping forces and theatrical forms in Western civilization from Greek times to Romanticism. [1007-1]

6552. Theatre History — Modern. (3). Continuation of 6551 to the present. [1007-1]

6554. Costume History. (3). Clothing from Gothic to modern times. A lecture/research course requiring the student to make simple line drawings of historical examples. [1007-1]

6556. Seminar in Black Theatre. (3). Selected topics in contemporary black theatre. May be repeated for a maximum of 6 credits. PREREQUISITE: Permission of the instructor. [1007-1]

6562. Costume Design. (3). Theory and techniques of costume design studied through a series of design assignments. Study of color, line, fabric, and rendering styles. Special consideration given to character interpretation. PREREQUISITE: THEA 6554 or permission of the instructor. [1007-1]

6565. Applied Design. (3). Application of major theatrical styles to selected production problems. Emphasis placed on the selection of elements to recreate period styles for stage design. Offered alternate years. [1007-1]

6567. Lighting Design. (3). Lecture/seminar/practicum investigation of the art of theatrical lighting design. Topics include: script analysis, design approaches and methodologies, procedures and practices for the working designer, cue techniques, design styles and forms, and criticism of lighting design. Research, project work, and staged scenes required. [1007-1]

6568. Advanced Lighting and Sound Design. (3). Lecture/seminar/practicum investigation of the arts of lighting and sound design. Topics include: conceptual development of the design, integration with the scenographic process, survey of forms and styles, and special design problems. Practical work on either main stage or ancillary productions required. [1007-1]

6569. Styles of Design. (3). Historical evolution of, and practical approaches to, the major styles of production design that dominate contemporary theatre. Offered alternate years. [1007-1]

6571. Playwriting. (3). Theory and principles of writing plays for the stage. Practice in writing either the short or long play. [1007-8]

6581. Dramatic Theory and Criticism. (3). Major documents in dramatic theory and criticism from Aristotle to the present. [1007-1]

6582. Analysis of Dramatic Literature. (3). Examining the script as blueprint to discover and evolve the particular components which lead to its artistic fulfillment and unity. Advanced techniques of director and scenographer used to solve artistic/practical problems of specific plays. [1007-1]

6631. Acting for Film and Television. (3). Educational experience for the actor in the media of film and television, concentrating on dramatic, commercial and documentary properties. [1007-1]

6921. Elements of Play Production. (3). Choosing the play, casting, directing, technical aspects of production as they relate to needs of people in educational and community settings. [1007-1]

7100. Bibliography and Methods of Research. (3). Bibliographical aids for the study of theatre. Types of research in theatre, and the presentation and documentation of scholarly writing in theatre. [1007-1]

7420. Seminar in Language and Performance Styles. (3). Mimetic language forms and functions as related to performance realities. May be repeated for a maximum of 6 credits. [1007-1]

7421. Seminar in Individual Authors. (3). Depth interpretation of the work of a selected author. Offered alternate years. May be repeated for a maximum of 6 credits. [1007-1]

7431. Directing Interpreters Theatre. (3). Script preparation; directing techniques for group interpretation of prose, poetry, and drama. May be repeated for a maximum of six hours credit. [1007-1]

7461. Studies in Oral Interpretation. (3). Advanced work in special problems related to the interpretation of poetry and prose styles. [1007-1]

7521. Stage Direction. (3). Principles governing the production of a play from the analysis of the manuscript through its presentation upon the stage. Students will direct scenes or one-act plays as part of their classwork. May be repeated for a maximum of 6 credits. [1007-1]

7551. Seminar in Theatre Aesthetics. (3). Aesthetic theories affecting the theatre from Classical Greece to the present. Special attention to the study of the interrelationship of theatre and the other arts. May be repeated for a maximum of 6 credits. [1007-1]

7554. Seminar in Directing. (3). Specialized study of advanced theories and techniques of directing for the theatre with emphasis on the demands of contemporary theatre architecture. May be repeated for a maximum of 9 credits. [1007-1]

7555. Seminar in Stage Design. (3). Specialized study of advanced theories and techniques of theatre design with particular emphasis on the demands of contemporary theatre architecture. May be repeated for a maximum of 9 credits. [1007-1]

7558. Seminar in World Drama. (3). Periods in Theatre history may include courses in Greek and Roman, medieval, renaissance, restoration, romantic, and 20th century drama. May be repeated for credit when the topics varies. [1007-1]

- 001. GREEK AND ROMAN DRAMA
- 002. MEDIEVAL DRAMA
- 003. RENAISSANCE DRAMA
- 004. RESTORATION DRAMA
- 005. 20TH CENTURY DRAMA

7564. Principles of Scenography. (3). Basic principles and theories of modern Scenography. Areas of investigation shall include scene, light, and costume design as they relate to the total production. [1007-1]

7571. Advanced Playwriting. (3). Continuation of the theories and practice of playwriting with the object of achieving a finished script, ready for production. PREREQUISITE: THEA 6571. May be repeated for a maximum of 9 credits. [1007-1]

7583. Research in Theatre. (1-3). Research in specialized areas of drama and theatre, such as dramatization of American and/or English literature; history of English and American drama criticism; Renaissance treatises on theatre art and architecture; history of costume, et cetera. May be repeated for a maximum of 6 credits. [1007-1]

7584. Techniques of Instruction in Theatre. (3). Supervised experience in the approach to teaching basic theatre courses, both aesthetic and production subjects, with the development of the specialized skills required for instruction in the performing arts. Offered alternate years. [1007-1]

7592. Theatre Planning and Management. (3). Principles of theatre planning and management for educational and regional theatres. May be repeated for a maximum of 9 credits. Offered alternate years. [1007-1]

K495 THEATRE AND COMMUNICATION ARTS (THCA)

7993. Special Problems. (1-3). Individual investigation of special research projects not included in thesis. [1506-8]

7994. Special Problems. (1-3). (Same as Above). [1506-8]

†7995. Production Practicum. (3-6). Creative performance or production project suitable for public presentation and/or a practical application. Project to be determined in consultation with and directed by the student's supervisory committee. [1506-8]

†7996. Thesis. (1-6). [1506-6]

†Grades of S, U, or IP will be given.



THE COLLEGE OF EDUCATION

Dean
ROBERT L. SAUNDERS, Ed.D.

Director of Graduate Studies,
BARBARA G. BURCH, Ed.D.

A wide variety of graduate programs of study are offered in the College of Education of Memphis State University. Candidates for a degree must design a plan which has the approval of their major adviser, the departmental chairman, the Director of Graduate Studies and the Graduate Dean.

The College of Education offers degrees at the master's, specialist, and doctoral level. The master's degree programs are the Master of Education (M.Ed.), Master of Arts in Teaching (M.A.T.), Master of Science (M.S.). Offered at the post-master's level are the degrees of Education Specialist (Ed.S.) and Doctor of Education (Ed.D.).

Graduate degrees in the College of Education are available in the departments of Curriculum and Instruction, Distributive Education, Educational Administration and Supervision, Foundations of Education, Counseling and Personnel Services, Health, Physical Education and Recreation, Library Science, and Special Education and Rehabilitation.

For specific information concerning majors, areas of concentration, course requirements, etc., students should review the program descriptions which are found under the departmental listings in this Bulletin. See the list of academic programs at the beginning of this Bulletin for majors and concentrations.

MASTER'S DEGREE PROGRAMS

The College of Education offers programs leading to the Master's degree in the departments of Curriculum of Instruction, Distributive Education, Educational Administration and Supervision, Foundations of Education, Counseling and Personnel Services, Home Economics, Health, Physical Education and Recreation, Library Science, and Special Education and Rehabilitation.

Master of Education Degree (M.Ed.)

Available to individuals who are already certified to teach. This degree provides for certified persons to expand their work in their area of teaching endorsement or to complete requirements for endorsement in areas for which certification is available only at the graduate level. This degree includes an extension of the professional education programs at the undergraduate level and is concerned with further development of competencies established in those programs.

Master of Science Degree (M.S.)

Available to individuals who have needs or interests for working in education-related settings who do not need or desire

teacher certification. This degree is directed toward the development of competencies necessary for successful advancement in fields which are related to education but generally considered outside the K-12 classroom setting of certified persons.

Master of Arts in Teaching Degree (M.A.T.)

Available to individuals interested in acquiring teacher certification through proving their knowledge base and developing those teaching competencies identified with instruction in a school related setting. This degree is designed for those persons who offer outstanding undergraduate records and who are seeking initial teacher certification, and those individuals already certified who desire to add certification in one or more additional areas of teaching specialization. Students may seek certification in a graduate area for which there is an undergraduate endorsement.

Admission to Master's Degree Candidacy

Upon notification of admission to the Graduate School, the student may enroll and begin to take courses. However, a student's initial enrollment in no way should be taken to mean that he has been

pted for degree candidacy. To become a candidate for a degree, the student must e "Application for Admission to Master's degree Candidacy" forms available in the Graduate School or in the Dean's Office. For information on the procedures for completing degree candidacy forms, the student should consult his major adviser.

Appointment of Advisor

Prior to initial enrollment the student is advised to arrange an interview with the chairman, or his representative, of the department in which the student plans to major. At this meeting the student will be assigned an advisor who will help the student in planning a program of studies.

Workshops and Independent Study Credits

The maximum combined credit in "Independent Study" and "Workshop" courses that can be applied to the master's degree is 10 semester hours with not more than 6 semester hours applying to the major. Seven semester hours of credit in "Independent Study" courses may be applied to master's degree requirements of no more than 4 semester hours may be taken in the major or in the collateral area.

If the student should elect to take "Workshop" courses and no "Special Problems" courses, he could acquire 10 semester hours for degree purposes, only 6 hours of which could apply to the major. If the student should elect to take the maximum credit allowed in "Special Problems" courses, he could take an additional 3 hours in "Workshop" courses to be applied to degree requirements.

Other Requirements

At least 18 semester hours of the courses in a student's program must be 00 level courses. At least 12 semester hours of these must be taken in the major.

Program of Studies

Each student, in consultation with his advisor, will plan a program of studies leading to the fulfillment of the requirements for one of the degrees listed below.

Minimum requirements for the *Master of Education* degree are:

Major	18 hours
Content for Specialty Research (EDRS 7521)	3 hours
College Core*	3 hours
Cultural Foundations or Educational Psychology courses (EDFD-EDPS)	
Supportive Collateral** Outside COE	9 hours
Total	33 hours
Minimum requirements for the <i>Master of Science</i> degree are:	
Major	18-21 hours
Content for Specialty Research (EDRS 7521)	3 hours
Supportive Collateral**	12-15 hours
Inside COE (not in major department)	6-9 hours

Outside COE	6-9 hours
Total	36 hours
Minimum requirements for the <i>Master of Arts in Teaching</i> degree are:	
Major	24-27 hours
Content for Specialty Research (EDRS 7521)	3 hours
College Core	
EDFD 7000, EDPS 7121	6 hours
Supportive Collateral**	9-12 hours
Inside COE (not in major department)	0-3 hours
Outside COE	9 hours
Total	45 hours

*Curriculum (CIED 7002) may be used to satisfy the College Core requirement in those programs where it is a requirement.

**The supportive collateral studies are an explicit part of each student's program. The courses must be directly pertinent to the professional goals of the student's major. The supportive collateral studies and the work in the major concentration should result in a coherent combination which is appropriate for the student's program goals. Additional information as to appropriate areas to satisfy collateral requirements should be obtained from the major department.

Substitutions for Required Courses

Any substitutions for departmental required courses in the major must be approved by the advisor and the department chairman. Substitutions which affect College or degree requirements must be approved by the advisor, the department chairman, and the College Director of Graduate Studies.

Master's Thesis

A thesis of 3 to 6 semester hours may be presented as partial fulfillment of degree requirements. Immediately after the assignment of a thesis topic the student must submit the "Application to Write a Thesis or Dissertation" form to the Graduate School Office.

Each degree candidate must enroll for a minimum of 3 hours thesis credit each semester until the project is completed. A student who fails to complete the thesis at the end of the academic semester following the registration for the total credits allowed to count toward the degree will be required to renew his status. In order to remain in active status, the candidate will be required to register for 3 hours of thesis credit each academic semester until it is completed. (The summer session will be considered an academic semester for this purpose.) Credit will be posted upon the completion and acceptance of the thesis, but no more than 6 hours will be counted toward degree requirements for a Master's thesis. This requirement may be waived for any semester the advisor is not on campus or for other reasons approved by the major advisor, the department chairman and the Director of Graduate Studies of the College of Education.

Thesis Guidelines

Theses must be prepared according to guidelines specified by the College and the Graduate School. For specific informa-

tion, students should consult their major adviser.

Master's Comprehensive Examination

Before being recommended for graduation, every candidate for the Master's degree is required to pass a final comprehensive examination. It may be oral or written or both, at the discretion of the department concerned.

The comprehensive exam is administered each semester and during the summer session. The student must consult the "Schedule of Classes" of the semester he plans to take the exam for information about application deadlines and the exam schedule. To be permitted to take the exam, the student must sign up for it in his department before the indicated deadlines.

Departmental requirements with reference to thesis, research, and course requirements for each of these degree programs are found under the appropriate departmental sections in this Bulletin.

CERTIFICATION AT THE GRADUATE LEVEL

Professional School Services Personnel Certification

The Master of Education degree program is the degree through which certification is available in the areas of Principal, Supervisor of Instruction, Superintendent, Elementary School Counselor, Secondary School Counselor, and Special Reading Teacher. Applicants for certification in these areas must complete an approved program and be recommended by the College. To be recommended for certification in these areas, one must also hold a professional certificate endorsed for the grades on the school levels one supervises (i.e. Grades 1-9, 7-12, or 1-12).

Initial Teacher Certification

The Master of Arts in Teaching program is the only degree through which initial teaching certification at the graduate level can be obtained.

Adding New Areas of Certification

The Master of Arts in Teaching degree may be pursued by students wishing to change their teaching fields from their undergraduate endorsement area(s). Students pursuing this degree will be required to meet the departmental prerequisites and teaching certification requirements. The student may prepare in more than one discipline if he is seeking a teaching endorsement in more than one field.

Policies Governing Certification at the Graduate Level

Students who have received from MSU or any other accredited institution a Bachelor's degree that did not qualify them for

teacher certification may become eligible for certification by enrolling as a graduate master's student in the M.A.T. degree program, and completing the requirements for certification according to the current undergraduate catalog, and the requirements for the M.A.T. degree, according to the current graduate catalog. Candidates for the Master of Arts in Teaching degree who have not completed the student teaching experience at the undergraduate level will be required to do so at the graduate level. These candidates should refer to the Undergraduate Catalog requirements and procedures for student teaching, and confer with the Director of Certification concerning individual program requirements.

"Current catalog" is defined in this case as the catalog in effect at the time the MSU graduate re-enters or a graduate of another institution enters MSU after receiving the Bachelor's degree and earns credit which will apply toward teacher certification. A period of six years will be allowed for completion of the requirements for certification and for the M.A.T. degree. If a student fails to complete the requirements in the specified amount of time, he must reorganize his program to conform to a later catalog which will permit him to complete all requirements within the time allowed.

Exception to the above policy: A student who has received a Bachelor's degree from Memphis State University that did not qualify him for teacher certification will be allowed to complete the requirements for teacher certification as specified in the catalog under which he received that degree provided that:

- 1) the student was admitted to the Memphis State University Teacher Education Program prior to receiving the first bachelor's degree;
- 2) the teacher certification requirements are completed within six years from the effective date of the catalog under which the student received the first bachelor's degree.

If these two provisions are not met the student must complete the teacher certification requirements as prescribed in the current catalog.

Procedures

Apply for admission to the Graduate School, and to the Master of Arts in Teaching degree program. When approved, the student will be assigned a graduate advisor. For initial certification the student must complete the requirements for at least a major endorsement in a teaching area as outlined in the undergraduate catalog. Adding an endorsement area at the graduate level may be accomplished by completing the requirements for either a major or minor endorsement as outlined in the undergraduate catalog.

To complete certification requirements the student will need to follow the same procedure for transcript evaluation as the special undergraduate. The graduate advisor will then work into the student's degree plan as many as possible of the en-

dorsement requirements for certification. If there are deficiencies which will not fit into the student's graduate program, they may be taken for either graduate or undergraduate credit.

As soon as possible after admission to the M.A.T. program, the student must apply for admission to the Teacher Education Program and approval to do student teaching.

For additional information consult the Director of Certification, Dean's Office, College of Education.

The Master of Arts in Teaching degree may be earned without the presentation of a thesis. No provision is made for thesis credit within the total hours required for the degree. The acceptability of the student's overall performance in the Master of Arts in Teaching program will be demonstrated through an oral examination near the end of the student's program. For a more detailed description of the program see the Department of Curriculum and Instruction program description.

POST-MASTER'S DEGREE PROGRAMS

To be admitted to post-master's degree candidacy in the College of Education, the student must present a file which presents evidence that he has met the following criteria:

1. Demonstration of ability to perform satisfactorily in graduate level studies;
2. Demonstration of ability to communicate at a level satisfactory to demonstrate proficiency;
3. Demonstration of ability to understand and utilize research;
4. Demonstration of contribution and potential for contribution to the profession;
5. Demonstration of satisfactory professional experience.

Along with satisfactory presentation of one degree candidacy file, the student must meet the following additional criteria in order to be eligible to take the qualifying exam for the Ed.S. or Ed.D. degrees in the College of Education:

1. Possession of a master's degree or its equivalent;
2. Completion of the prescribed semester hours in graduate professional education courses;
3. Satisfactory grade point average in graduate work completed;
4. Presentation of satisfactory scores on the GRE Aptitude Test and the Advanced Education section of the GRE.
5. Two years of prior teaching and/or administrative experience, or equally appropriate experience. (Appropriateness of experience will be determined by staff members in the department of the student's major field of emphasis.)

Education Specialist (Ed.S.)

The Education Specialist programs in the College of Education are designed to improve the competency of teachers,

counselors, librarians, supervisors, and administrators; to serve the career needs of individuals; and to encourage practitioners to extend their competencies in the various areas of educational studies. The programs provide the opportunities for specialization in a major area of study, interdisciplinary study in related and supportive fields, and the application of research skills in the field of study.

Doctor of Education (Ed.D.)

Doctoral programs in the College of Education are designed to improve the competency of teachers, counselors, librarians, supervisors, and administrators to serve the career needs and goals of individuals in education-related fields; to encourage research in a student's area of concentration; and to initiate and implement programs involving the school and the community. The programs provide both breadth and depth of preparation through a flexible combination of discipline and specialization, interdisciplinary study, and significant research.

Admission to Post-Master's Candidacy

Upon notification of admission to the Graduate School, the student may enroll and begin to take post-master's courses. However, a student's initial enrollment in no way should be taken to mean that he has been accepted for degree candidacy.

As soon as possible after the student has enrolled in course work, and before he has completed 12 semester hours of post-master's credit, he should confer with his department adviser as to the department's policy concerning the completion of his application for degree candidacy.

Temporary Adviser

Prior to his initial enrollment, if possible, the student is advised to arrange an interview with the chairman, or his representative, of the department in which the student plans to major. At this meeting the student will be assigned a temporary adviser. The temporary adviser will help the student in planning a tentative program of studies and assist him in preparing for the Qualifying Exam.

Filing and Eligibility

The student must contact the office of the Associate Dean of the College of Education and initiate procedures for the development of an admissions file.

When the degree candidacy admission file is complete, it will be reviewed and, if satisfactory, forwarded to the department in which the student wishes to major. The department will evaluate the information in the file and make a recommendation to the office of the Associate Dean of the College of Education. The Dean's Office will notify the student of his eligibility to take the Qualifying Examination for admission to candidacy for the Ed.S. or Ed.D.

Qualifying Exam for the Ed.S. and Ed.D.

The qualifying exam serves as a diagnostic and screening device for candidates for the Ed.S. and Ed.D. degrees. It should be considered a test to determine the candidate's capacity in content areas and in writing ability. Qualifying exams are administered at various times throughout the calendar year. The student must consult the "Schedule of Classes" of the semester he plans to take the exam for information about application deadlines and the exam schedule. The qualifying exam should be written but may also include an oral examination at the discretion of the department concerned.

Acceptance into Post-Master's Degree Programs, Evaluation and Notification of Qualifying Exam Results

After the qualifying exam has been completed, the department, through the temporary advisor, will evaluate it and make a recommendation to the Dean's Office of the College of Education concerning admission to candidacy for the Ed. S. or Ed.D., and this recommendation will be forwarded to the Dean of Graduate Studies.

Appointment of Advisory Committee

When admitted to candidacy, the student should consult with his department chairman and his temporary advisor in order to secure the appointment of a permanent major advisor who will also serve as chairman of his Advisory Committee. The department chairman, following consultation with the student and his major advisor, will make a recommendation to the Director of Graduate Studies concerning the appointment of a graduate Advisory Committee to assist the student in planning a complete program of studies. Upon approval by the Director of Graduate Studies, the appointments will be forwarded to the Graduate Dean.

The student's advisory Committee for the Ed.S. and Ed.D. degrees shall be composed of at least two representatives from the major department and one representative from a collateral area outside the College of Education who are "full members" or "associate members" of the Graduate Faculty of MSU.

PROGRAM OF STUDIES

All programs of study for the Ed.S. and Ed.D. degrees include requirements in the following areas: Major, college core, research, supportive collateral inside the college, supportive collateral outside the college.

Time Limitations

Each student, in consultation with his Advisory Committee, will plan a complete program of studies. The program of studies must be placed on file with the Director of Graduate Studies before the end of the semester immediately following the successful completion of the qualifying exam.

However, if a student is in residency during the semester in which he completes the qualifying exam, the program of studies must be on file one week prior to the end of that semester. No student may be considered as officially in residency (traditional or alternative) unless he has qualified and filed a program of studies, signed by his program Advisory Committee.

The student's program of studies for the Ed.S. degree must include a minimum of 66 semester hours, of which the last 33 hours shall have been earned no more than six years prior to the student's date of graduation.

The student's program of studies for the Ed.D. degree must include a minimum of 99 semester hours, of which the last 66 hours shall have been earned no more than ten years prior to the student's date of graduation.

Acceptance of Transfer Credit

Credit earned at another institution must be presented for consideration at the time the student is accepted for candidacy. Upon approval by the student's Advisory Committee, the credit will be transferred to apply toward the Ed.S. or Ed.D. provided that the credit meets general University and specific program requirements.

Not more than six semester hours of transfer credit beyond the Master's can be applied toward an Ed.S. degree. Not more than 30 semester hours beyond the Master's can be transferred to the requirements for the Ed.D. degree.

Other Requirements

Thirty of the last forty-five semester hours to be applied toward the Ed.D. must be credit that is received through enrollment at the Memphis campus of Memphis State University. At least 18 of the 30 hours must be taken in courses which provide participation and interactive experiences with other graduate students. (This would normally exclude workshops, practicums, internships, independent study courses, and dissertation credit.)

The maximum combined credit in Independent Study and "Workshop" courses that can be applied to the Ed.S. degree requirements in work taken above the Master's degree level, is 9 semester hours with not more than 6 semester hours applicable to the major concentration.

The maximum combined credit in Independent Study and "Workshop" courses that can be applied to the Ed.D. degree requirements in work taken above the Master's degree level, is 18 semester hours with not more than 12 semester hours applicable to the major concentration.

Planning the Program

Minimum requirements for the *Educational Specialist* degree are:

Major:	
Content for Specialty	30 hours
*College Core:	
Cultural and/or Psychological Foundations (EDFD-EDPS pre-	

fixes). Students concentrating in Educational Psychology or Cultural Foundations will utilize the six hours for Inside COE (but not in major department) Supportive Collateral.	6 hours
Research Core:	
EDRS 7521 and EDRS 8541	6 hours
**Supportive Collateral:	
Inside COE (outside major department)	9 hours
Outside COE	15 hours
Consult department for supportive collateral appropriate to each major or concentration	

Total 66 hours

Minimum requirements for *Doctor of Education* degree (for all areas of emphasis except Higher Education):

Major:

Content for Specialty 48 hours

*College Core:

Cultural and/or Psychological Foundations (EDFD-EDPS prefixes) (Students concentrating in Cultural Foundations or Educational Psychology will utilize these 9 hours for Inside COE, but not in major department, supportive collateral.) 9 hours

Research Core:

EDRS 7521, EDRS 8541, and EDRS 8522 or 8542 9 hours

**Supportive Collateral:

Inside COE (outside major department) 12 hours

Outside COE (appropriate to each major or concentration) 21 hours

Total 99 hours

Minimum requirements for *Doctor of Education* degree (*Higher Education major and concentrations*)

Major:

Content for Specialty 39-63 hours (Includes higher education core)

*College Core:

Cultural and/or Psychological Foundations (EDFD-EDPS prefixes) 6-9 hours

Research Core:

EDRS 7521, EDRS 8541, and EDRS 8522 or 8542 9 hours

**Supportive Collateral:

Inside COE (outside major department) 6-18 hours

Outside COE (appropriate to major or concentration) 15-36 hours

Total 99 hours

*Where Curriculum (CIED 7002) is required at the Master's level for school service personnel programs, it may be included in the college core.

**The supportive collateral studies are an explicit part of each student's program. The courses and other credit producing activities must be directly pertinent to the professional goals of the student's major. The critical requirement is that the supportive collateral studies and the work in the major concentration result in a coherent combination which has the complexity, depth, and breadth appropriate for a rigorous program.

Changes in Program of Studies

Any changes to be made in a program of studies must be submitted on the appropriate form and must have the approval of the Advisory Committee, the department chairman, and the Director of Graduate Studies.

RESIDENCY

All candidates for the Specialist or the Doctoral degree must fulfill the University and College residency requirement after passing the qualifying exam and filing a program of studies.

Purpose

The requirement of residency is designed to provide the following:

1. A concentrated educational experience at the University;
2. Opportunity for continuous interaction with faculty and other graduate students;
3. Participation in a variety of related experiences which will enhance one's professional development; and
4. Removal from demands of one's work setting for a period of time so that he might be free to develop new attitudes and skills.

Ed.S. and Ed.D. Residency Policies

Candidates for the Ed.S. must spend one semester or two summers (both terms) beyond the Master's degree as full-time resident students. The student must have successfully completed the qualifying exam and been admitted to an Ed.S. program prior to the beginning of work for the fulfillment of his full-time residence requirement.

Candidates for the Ed.D. must spend one academic year beyond the Master's degree in full-time residency. This requirement can be met by attending the fall and spring semesters in sequence or by attending the spring semester and the following fall semester. The student must have successfully completed the qualifying exam and been admitted to an Ed.D. program prior to the beginning of work for the fulfillment of the full-time residence requirement.

Although it is not advisable, exception to these policies may be granted if a student wishes to enroll as a full-time student during the semester he takes the qualifying exam. Request for the exception must be made, in writing, through the department chairman to the Director of Graduate Studies no later than one week after the first day of classes of the semester the student plans to take the qualifying exam. If the request for exception is approved and if the student passes the exam and files an approved program of studies within 30 days of the first day of classes of the following semester, the semester in which the student qualified may be accepted as part of the full-time residence requirement.

Residency Plans Available to Ed.D. Candidates

All doctoral candidates are required to select a residency plan, either the Traditional Residency Plan or one of the Alternative Residency Plans. Four alternative residency plans are available to doctoral candidates who are unable to fulfill the traditional residency requirement. These plans are designed to meet specific needs of students with respect to their employment and educational status. In each of these alternatives a plan must be developed and approved before the student can be accepted into residency.

Plan 1 — A two year residency including enrollment in four consecutive fall and spring semesters for a minimum total of 33 semester hours of course work during the residency period.

Plan 2 — Summer residence, consisting of enrollment for a minimum total of 33 semester hours of course work during the residency period, taken in four consecutive summers, excluding pre-summer terms.

Plan 3 — Equivalent combinations of alternatives one and two, above, for a minimum total of 33 semester hours.

Plan 4 — A well-planned and structured set of off-campus experiences, that is the equivalent of nine months in full-time residence. A candidate may not fulfill this requirement by experience in any career ladder position in his own employing institution.

Timetable for Filing for Residency

1. Traditional Plan: Candidates enrolled full-time without outside employment or enrolled full-time with only partial outside employment must have appropriate letters on file in the Office of the Associate Dean certifying their employment status (with signed approval of the committee chairman), prior to the beginning of the first residency semester.

2. Alternative Residency Plans: Prior to beginning residency, the written plan must be approved and filed on the appropriate planning form. The plan must have the approval signatures of the chairman of the candidate's Advisory Committee and of the department chairman. It must be submitted to the Office of the Associate Dean, Director of Graduate Studies, for approval no later than the first day of graduate registration in the semester designated to count as residency. Students are expected to have satisfied requirements for admission to the doctoral program before filing a residency plan.

Comprehensive Examination for the Ed.S. and Ed.D. Degree

When a candidate for the Ed.S. or the Ed.D. degree has completed all course requirements or is enrolled in the last course in his program of studies, exclusive of the thesis or dissertation, he must pass a comprehensive exam, written and oral, covering the major and collateral fields of study. Students who successfully pass the comprehensive exam will be des-

ignated as Late Doctoral Candidates in their degree status.

Ed.S. THESIS AND Ed.D. DISSERTATION

Ed.S. degree candidates will present a six-hour field study of a significant problem in a local school system or a six-hour thesis based on research related to the graduate major.

An acceptable dissertation is a requirement for all doctoral degrees. The dissertation must embody the results of an extended research effort which is an original contribution. It should reflect the candidate's ability to conduct independent research and interpret in a logical manner the facts and phenomena revealed by the research. The student will be required to meet the specific regulations of the department in which he is majoring and of the Graduate School. Ed.D. degree candidates will present dissertations for 12 hours credit.

Enrollment Requirements

Each degree candidate must enroll for a minimum of 3 hours field study, thesis, or dissertation credit each semester until the project is completed. A student who fails to complete the thesis/dissertation at the end of the academic semester following the registration for the total credits allowable will be required to renew his status. In order to remain in active status, the candidate will be required to register for 3 hours of thesis/dissertation credit each academic semester until the dissertation is completed. (The summer session will be considered an academic semester for this purpose.) Credit will be posted upon the completion and acceptance of the thesis/dissertation, but no more than 6 hours will be counted toward degree requirements for an Ed.S. thesis and no more than 12 hours for an Ed.D. dissertation.

This requirement may be waived for a semester the advisor is not on campus for other reasons approved by the major advisor, the department chairman and the Director of Graduate Studies of the College of Education.

Failure to remain on active status without an approved waiver will result in reevaluation of the candidate's status in the program by his Advisory Committee.

Committee Membership for Supervision of the Field Study, Thesis or Dissertation

Prior to submission of a prospectus for a field study, thesis, or dissertation, the Advisory Committee must be expanded to consist of at least five voting members. These additional members must be "full-time," "associate," "adjunct," or "full-time temporary" members of the graduate faculty of Memphis State University. They will be nominated by the chairman and the student involved. They can be selected from whatever areas are most appropriate to support and assist in the student's research and should include at least one

member from a supportive area within the COE outside the major department.

Doctoral Prospectus

In order to provide a relatively uniform framework for preparation of doctoral prospectus, the College of Education has specified a format to be followed in its preparation. Copies of the format may be obtained from the major advisor or from the office of the Director of Graduate Studies.

Once a prospectus is approved, it is expected that the study will be completed within three years. If not the Advisory Committee will reevaluate the candidate's status in the program.

Early doctoral student" designation applies to all doctoral candidates from the time of formal admission to candidacy in the COE until the time of completion of course work and passing the comprehensive exam over course work. At that time the candidate is redesignated as "late doctoral student."

Thesis/Dissertation Guidelines

Theses and dissertations must be prepared according to guidelines specified by the College and the Graduate School. For specific information, students should consult their major adviser.

Final Examination (Thesis/Dissertation Defense)

After the completion of the thesis/dissertation and all other prescribed work for the degree, all candidates will be given a final oral examination dealing primarily with the thesis/dissertation and its relation to the candidate's major field of study. This exam will be conducted by the student's five member Advisory Committee.

GRADUATE ASSISTANTSHIPS

Graduate assistantships for post-master's students are available in most of the academic areas of the College of Education, and a limited number of graduate

assistantships for master's students are available.

Active work and satisfactory progress toward a degree are necessary to hold an assistantship, and graduate assistants are required to be registered in each term in which they hold an assistantship. Full-time graduate assistants take nine hours of course work per semester, and serve 20 hours per week on the assistantship.

Permission for a graduate assistant to take as few as six credit hours in a semester may be granted by the Associate Dean upon the recommendation of the department chairman. Permission to take more than nine hours may be granted by the Dean of the Graduate School upon the recommendation of the department chairman and the Associate Dean.

Applications for graduate assistantships may be obtained in the department offices, the Dean's Office, or the Graduate School Office.

COLLEGE OF EDUCATION GRADUATE ACADEMIC PROGRAMS

Department	Major	Concentrations	Degree Offered
Counseling and Personnel Services	Guidance and Personnel Services	(1) Elementary School Counseling and Guidance (2) Secondary School Counseling and Guidance	Master of Education (M.Ed.)
		(1) General Counseling and Guidance (2) Community Agency Counseling (3) Student Personnel Services (4) Corrections Counseling	Master of Science (M.S.)
	Personnel Services	Counseling and Guidance	Education Specialist (Ed.S.)
		(1) Counseling (2) Higher Education	Doctor of Education (Ed.D.)
Curriculum and Instruction	Curriculum and Instruction	(1) Adult Education (2) Higher Education (3) Business Education	Master of Science (M.S.) Master of Arts in Teaching (M.A.T.)
		(4) Curriculum (5) Instructional Design and Technology (6) Reading	Master of Education (M.Ed.) Master of Science (M.S.) Master of Education (M.Ed.)
		(7) Elementary Education (8) English Language Arts Education (9) Foreign Language Education (10) Mathematics Education (11) Secondary Education (12) Science Education (13) Social Studies Education	Master of Education (M.Ed.) Master of Arts in Teaching (M.A.T.)
		(14) Early Childhood Education	(M.S.) (M.Ed.) (M.A.T.)
		(1) Music Education	Education Specialist (Ed.S.)
		(2) Adult Education (3) Business Education (4) Curriculum (5) Early Childhood Education (6) Elementary Education (7) English Language Arts Education (8) Foreign Language Education (9) Higher Education (10) Instructional Design and Technology (11) Mathematics Education (12) Reading (13) Science Education (14) Secondary Education (15) Social Studies Education	Education Specialist (Ed.S.) Doctor of Education (Ed.D.)

Department	Major	Concentrations	Degree Offered
Distributive Education	Distributive Education		Master of Education (M.Ed.)
Educational Administration and Supervision	Educational Administration and Supervision	General	Master of Science (M.S.)
		(1) Elementary (2) Secondary	Master of Education (M.Ed.)
		(1) Superintendency (2) Elementary (3) Secondary (4) Higher Education	Education Specialist (Ed.S.)
		(1) Higher Education (2) General (3) Adult, Continuing and Community Education	Doctor of Education (Ed.D.)
Foundations of Education	Foundations of Education	(1) Cultural Foundations (2) Educational Psychology (3) Research Methodology and Statistics	Master of Science (M.S.)
		(1) Cultural Foundations (2) School Psychology (3) Research Methodology and Statistics	Education Specialist (Ed.S.)
		(1) Cultural Foundations (2) Educational Psychology (3) Research Methodology and Statistics (4) Higher Education	Doctor of Education (Ed.D.)
Health, Physical Education and Recreation	Health, Physical Education and Recreation	School Health	Master of Education (M.Ed.)
		Community Health	Master of Science (M.S.)
		Physical Education	Master of Education (M.Ed.)
		Recreation	Master of Science (M.S.)
Interdisciplinary	Higher Education		Doctor of Education (Ed.D.)
Library Science	Library Service		Master of Education (M.Ed.) Master of Science (M.S.)
Special Education and Rehabilitation	Special Education and Rehabilitation	(1) Educationally Handicapping Conditions (2) Pre-School Education of Exceptional Children (3) Multihandicapped	Master of Education (M.Ed.)
		(4) Rehabilitation Counseling (5) General	Master of Science (M.S.) Education Specialist (Ed.S.) Doctor of Education (Ed.D.)
Interdepartmental	Individual Studies	(by contract)	Master of Arts (M.A.) Master of Science (M.S.)

COUNSELING AND PERSONNEL SERVICES

PROFESSOR ROBERT E. DAVIS
Chairman

Room 123 Patterson Building

DR. PATRICIA H. MURRELL,
Coordinator of Graduate Studies

I. The Department of Counseling and Personnel Services offers graduate study designed to develop understanding and skills in counseling, guidance, and student personnel services. Programs are provided for preparation of counselors and professionals in student personnel.

II. The department offers graduate programs leading to the Master of Education degree (M.Ed.) and the Master of Science degree (M.S.) with a major in Guidance and Personnel Services. The two concentrations at the M.Ed. level are Elementary School Counseling and Guidance and Secondary School Coun-

seling and Guidance. The concentration areas of General Counseling and Guidance, Community Agency Counseling, Corrections Counseling, and Student Personnel Services are offered for the Master of Science degree. The Department offers a graduate program leading to an Education Specialist degree (Ed.S.) with a major in Personnel Services and a concentration in Counseling and Guidance. The Department offers a graduate program leading to a Doctor of Education degree (Ed.D.) with a major in Personnel Services and concentrations in Counseling and Higher Education.

III. M.Ed. Degree Programs*

Major: Guidance and Personnel Services

A. Elementary School Counseling and Guidance Program

Program Requirements

a. Guidance 7611, 7531, 7651, 7662, 7582, and 7692 or 7697.

b. EDRS 7521 and EDPS 7111.

c. A collateral of 9 semester hours outside The College of Education in social and behavioral studies.

d. Total: 33 semester hours.

B. Secondary School Counseling and Guidance Program

1. Program Prerequisite

Candidates without teaching certificates must have completed six semester hours of course work at the upper division undergraduate or the graduate level in educational psychology, philosophy of education and/or sociology of education. Persons

with undergraduate majors or minors in sociology, psychology or philosophy are exempt from this requirement.

2. Program Requirements

a. Guidance 7611, 7531, 7651, 7661, 7581, and 7691-7696.

b. EDRS 7521 and EDPS 7112.

c. A collateral of 9 semester hours outside The College of Education in a supporting field, including 6 semester hours in vocationally oriented courses which incorporate practical experiences.

Candidates with two years attested non-school work experience according to departmental policies, will be exempted from the vocational course requirements. Candidates with one year of tested non-school work experience will be exempted from the hours of the vocational course requirements. If candidates are exempted from the vocational course requirements, they must take collateral hours in a supporting field or in their teaching endorsement areas to fulfill the 9 semester hours of collateral requirements. If the course work for the student's teaching endorsement area, excluding elementary education (home economics, physical education, special education, etc.) is offered in The College of Education, the 9 hours may be taken within the College.

d. Candidates without valid Tennessee teaching certificates are required to take CIED 7002 in addition to other course requirements.

e. Minimum: 33 semester hours.

M.S. Degree Programs

Major: Guidance and Personnel Services Concentrations:

General Counseling and Guidance

Community Agency Counseling

Corrections Counseling

Student Personnel Services

Program Prerequisite

Six semester hours of course work at the upper division undergraduate or the graduate level in psychological, historical, sociological and/or philosophical foundations, OR

Satisfactory score on Advanced Education Section of the R.E., OR

Background experience equivalent to a or b above

Program Requirements

The major will consist of 18 semester hours which includes a core consisting of GUID 7531, 7581, and 7651 and additional courses appropriate to the concentration and approved by the advisor.

Selectives — 15 semester hours — At least 6 semester hours must be taken outside the College of Education and at least 6 semester hours in departments within the College of Education but outside the major department.

(a). Outside the College of Education, 6 semester hours. This course work will be taken in course work directly supportive to the concentration. (Six hours in Criminal Justice will be required for Corrections Counseling, as available.)

(b). Within the College of Education, 6 semester hours. This course work must be directly supportive to the concentration area.

EDRS 7521 — 3 semester hours

Minimum — 36 semester hours

Ed.S. Degree Program

Program Requirements

30 semester hours in the major concentration

9 semester hours of collateral work in The College of Education.

6 semester hours of educational psychology and/or cultural foundations.

EDRS 7521 and 8541.

15 semester hours of collateral work outside The College of Education in social and behavioral studies.

Minimum: 66 semester hours with a minimum of 9 semester hours selected from courses numbered 8000 or above.

Ed.D. Degree Program

Program Requirements (Counseling concentration)

48 semester hours in the major concentration.

12 semester hours of collateral work in The College of Education.

9 semester hours in educational psychology and/or cultural foundations.

EDRS 7521, 8541, 8522 or 8542.

21 semester hours of collateral work outside The College of Education in social and behavioral studies.

Minimum: 99 semester hours of graduate credit with a minimum of 21 semester hours selected from courses numbered 8000 or above.

Program Requirements (Higher Education concentration)

39-63 semester hours in the major concentration, to include 2 semester hours of dissertation (GUID 9000) and 12 semester hours of higher education core: CIED 8200, EDAS 8192, GUID 8622, EDFD 8002. Students completing the higher education concentration must complete a minimum of 30 semester hours within the major department.

6-18 semester hours of collateral work in the College of Education outside the major department.

6-9 hours in courses in educational psychology and/or cultural foundations.

EDRS 7521, 8541, and 8522 or 8542.

15-36 hours of collateral work outside the College of Education in social and behavioral studies.

A minimum of 99 semester hours of graduate credit with a minimum of 21 hours selected from courses numbered 8000 or above.

NCATE accredits all departmental M.Ed. programs and advanced programs for school personnel.

7730 GUIDANCE AND PERSONNEL SERVICES (GUID)

7731. Practicum in Residence Hall Staff Counseling and Advising. (3). Practical experience for residence hall staff will be provided. Deals with individual and group activities in counseling, advising, communication, and leadership. Concerns such as drug abuse, family planning information, and student discipline will be considered. [0826-8]

7770-79. Workshops in Guidance. Designed to offer continuing growth to the professional in the field of guidance and counseling. Experiences include application and study in the field signified by the specific workshop number. [0826-1]

772. Workshop in Corrections Counseling. (1-3).

773. Workshop in Group Processes. (1-3).

774. Workshop in Community Services. (1-3).

775. Workshop in Student Appraisal. (1-3).

776. Workshop in Career Guidance. (1-3).

777. Workshop in Pupil Personnel Services. (1-3).

778. Workshop in Counseling. (1-3).

779. Workshop in College Student Personnel Services. (1-3).

6781. Counseling Strategies for Crisis Intervention. (3). Process of crisis intervention. Study and practice in understanding crisis-induced dysfunctional behavior, recognizing crisis situations, and crisis counseling procedures. [0826-1]

6782. Gerontological Counseling. (3). A survey of demographic developmental, physiological-sensory, and psycho-social aspects of aging as applied to counseling. Experiences in the use of appropriate individual and group counseling techniques for the aged will be given with emphasis upon particular crisis situations such as: retirement, leisure, relocation, housing, institutionalization, dying, death, and survivorship. [0826-1]

6783. Alcohol and Drug Abuse Counseling. (3). Process of counseling alcoholic and drug dependent persons. Modalities of treatment, philosophy of treatment, and referral. [0826-1]

7006-8006. Selected Topics in Guidance and Personnel Services: — . (1-3). Study of current topics in the area of guidance and personnel services. May be repeated with a change in content. [0826-1]

7531-8531. Group Process as Applied to Guidance. (3). The organization and maintenance of effective groups. Group participation, projects and readings to aid the student in delineating his role in various group settings. [0826-1]

7581-8581. Theories of Counseling. (3). Person centered, behavioral and other appropriate theories. Practice in counseling and experiences to help counselors understand themselves. [0826-1]

7582-8582. Theories of Counseling, Consulting and Coordinating and the Elementary School Age Child. (3). Person-centered, behavioral, and related theories. Experiences include exercises in counseling, consulting, and coordinating with a focus on the elementary school. [0826-1]

7611-8611. Procedures, Administration, and Organization of Guidance Services in Schools. (3). Exploration of history, principles, organization and administration of guidance services in schools. Selected activities assist students in development of interpersonal skills, and in identifying services, roles and relationships of personnel. [0826-1]

7613-8613. Student Personnel Services in Higher Education. (3). This course will analyze the activities, functions, relationships, and philosophy of Student Personnel Services. It will address the historical development and current trends in student personnel services as they relate to the changing concepts in higher education. [0826-1]

7621-8621. Guidance for the Student with Special Characteristics. (3). Characteristics of the culturally deprived, the handicapped, the gifted, and the underachieving student will be discussed. Emphasizes approaches and problems of assisting these students in emotional development and in educational and vocational planning. PREREQUISITE: Fifteen semester hours of credit in guidance and personnel services or consent of the instructor. [0826-1]

7622-8622. College Students and College Cultures. (3). Study of characteristics, developmental needs and differing life patterns of college students. Analysis and interpretation of characteristics of campus environments and the interactions between academic-community sub-cultures. [0826-1]

7651-8651. Assessment Techniques in Guidance Settings. (3). The basic principles, tools and skills of diagnosis. Supervised experiences and performance-based activities related to the use of diagnostic techniques will be emphasized. Selection, use, interpretation and application of tools appropriate for group and individual appraisal. [0826-1]

7661-8661. Career Guidance. (3). The process of career development. Attention is given to the selection and use of educational and occupational information sources, career choice counseling and occupational choice. [0826-1]

7662-8662. Career Development in the Elementary Schools. (3). The effective use of human resources in the world of work. Selection and use of instructional materials and field experiences related to career development are emphasized. Exploration of knowledge and skills needed to support career awareness and exploration in grades K-9. [0826-1]

7672-8672. Seminar in Counseling and Guidance. (1-3). Devoted to current concerns and methodology in guidance and counseling. May be repeated for a maximum of nine semester hours credit. PREREQUISITE: Fifteen semester hours of credit in guidance and personnel services or consent of the instructor. [0826-1]

7673-8673. Seminar in Student Personnel Services (Higher Education). (3). Designed for students entering the field of student services in higher education, explores the functions of the student personnel division. [0826-1]

7683-8683. Seminar in Counseling and Personnel Services Research. (3). Designed to give the advanced graduate student in guidance and personnel services the opportunity to explore present research and research methodology, and to begin to carry out research. PREREQUISITE: Fifteen semester hours of credit in guidance and personnel services or consent of the instructor. [0826-1]

7691-8691. Supervised Practicum in Guidance and Counseling in the Secondary School. (3). An opportunity to work directly with adolescents in counseling procedures. Assistance with individuals and groups and practice in providing assistance in educational, occupational, and personal decision-making. 135 contact hours. PREREQUISITE: Departmental Approval. [0826-5]

7692-8692. Supervised Practicum in Guidance and Counseling in the Elementary School. (3). Supervised counseling and guidance with elementary age children. Group discussions and individual interviews provide the student opportunities to interact with elementary age children in a variety of settings. Practice in appropriate techniques in interaction with elementary children. 135 contact hours. PREREQUISITE: Departmental Approval. [0826-5]

7695-8695. Supervised Practicum in Student Personnel Services in Higher Education. (3-9). Supervised experiences in one or more of the following areas: residence life, activities, admissions, records, organizations, financial aids, administration and other services. A seminar will be included. Course may be repeated for a maximum of 9 semester hours. PREREQUISITE:

Fifteen semester hours of credit in guidance and personnel services or consent of the instructor. [0826-5]

7696-8696. Internship in Secondary School Counseling and Guidance. (3-6). A full-time experience, salaried or non-salaried, in counseling and guidance in a selected secondary school. The student will perform in all guidance services for a minimum of 300-600 contact hours. May be repeated for a maximum of 6 hours credit. [0826-5]

7697-8697. Internship in Elementary School Counseling and Guidance. (3-6). A full-time experience, salaried or non-salaried, in counseling and guidance in a selected elementary school. The student will perform in all guidance services for a minimum of 300-600 contact hours. May be repeated for a maximum of 6 hours credit. [0826-5]

7698-8698. Internship in General Counseling. (3-6). A full-time experience, salaried or non-salaried, in counseling and guidance in an appropriate community service agency. The student will perform in all the agency's guidance services for a minimum of 600 contact hours. May be repeated for a maximum of 6 hours credit. [0826-5]

7699-8699. Internship in Guidance and Personnel Services. (1-12). A full-time experience, salaried or non-salaried, in counseling, guidance or student personnel services. The student will perform in all the services of the setting for a minimum of 100 hours per hour of credit. Designed to complement on-campus course study with actual on-site professional experience in an integrated approach focused on programmatic, career, and individual student goals and needs. [0826-5]

7731-8731. Advanced Group Processes for Counselors. (3). Advanced study of group processes as applied to counseling, guidance, and student personnel work. Activities, functions, and dynamics of groups will be studied with actual experience with group work included. PREREQUISITE: Fifteen semester hours of credit in guidance and personnel services or consent of the instructor. [0826-1]

7769-8769. Seminar in Career Development Theory. (3). Analysis of career development theory and research. Study of career development components of theories: self, alienation, mental health, physical health, education, and research relating to these. Study of variables affecting career development and competency in counseling diverse career development clients. [0826-1]

7781-8781. Marriage and Family Counseling. (3). Techniques, ethics, and current status of marriage and family counseling. [0826-1]

7784-8784. Advanced Counseling Theories and Techniques. (3). Critical analysis of selected theories and techniques of counseling. Emphasis is upon a variety of major theories and systems. Provides a thorough theoretical base for developing a consistent approach to professional counseling. PREREQUISITE: GUID 7581/8581. [0826-1]

7785-8785. Legal and Ethical Considerations in Counseling. (3). Examination of existing and needed legislation affecting counseling, review of critical court cases, and study of ethical standards of professional counseling organizations. Survey of responsibilities and liabilities. [0826-1]

7811-8811. Survey and Development of Treatment Programs in Corrections. (3). Survey of theories and techniques used in contemporary treatment programs in corrections. Course content includes the development of contemporary corrections methods and practical considerations of operating corrections programs. Practice in identifying problems in corrections and developing plans for treatment programs. [0826-1]

7812-8812. Introduction to Counseling and Guidance in Community Agencies. (3). Roles and objectives, organization and administration, and implementation of guidance services in community agencies. Application of human relations experiences to personal growth and interpersonal relationships. Survey of applicable guidance services, skills, and techniques. [0826-1]

7881-8881. Corrections Counseling. (3). Application of major theories of counseling in corrections setting. Emphasis is on the practical application of a variety of contemporary theories in corrections. PREREQUISITE: 7581-8581 or 7582-8582 or consent of the instructor. [0826-1]

7882-8882. Advanced Gerontological Counseling. (3). Counseling theories applied to the aging. Experience in the use of appropriate individual and group counseling techniques with the aged with emphasis on crisis situations relating to retirement, relocation, dying, death, and survivorship. PREREQUISITE: GUID 6782 and 7581 or permission of instructor. [0826-1]

7883-8883. Pre-Retirement Counseling. (3). Processes relating to preparing for retirement. Attitudes, finances, leisure planning, career change or part-time employment covered in depth. Emphasis on planning and executing pre-retirement programs for business, industry, and social organizations (community agencies). PREREQUISITES: GUID 7581 or permission of instructor. [0826-1]

7892-8892. Supervised Counseling Practicum in Community Agencies. (3). Supervised counseling in one or more community agencies. Tapes, observation, and interviews of students' techniques are studied and critiqued by the supervisor. 135 contact hours. PREREQUISITE: Departmental approval. [0826-5]

7993. Special Problems in Guidance. (1-3). Individual investigation and report in the area of guidance under the direction of a faculty member. [0826-8]

7996. Thesis. (3-6). Only students with superior scholarship are permitted to register in this course. The student must present in writing an outline describing the proposed thesis. This outline, when approved by the faculty members, is submitted to the Chairman for his approval. This course will involve writing the thesis and will emphasize the adequate setup of the problem, the collection of the data, their use, and conclusions to be reached. Application for writing a thesis must be filled out on an approved form after consultation with the major professor, and filed with the Dean of Graduate Studies at the time of registration. [0826-6]

†8000. **Education Specialist Thesis.** (3-6). Individual study of a research problem, closely related to the student's field of major concentration. [0826-6]

†8001. **Education Specialist Field Study.** (3-6). Individual study of a significant problem in a local school system. The study shall be closely related to the student's field of major concentration. [0826-8]

8671. **Operation of Guidance and Personnel Services.** (3). Considers the problems of the guidance or personnel services staff member who is responsible for administering the program. Attention given to the services themselves and to the principles, techniques, planning, organizing, staffing, directing, and budgeting of these services. PREREQUISITE: Fifteen semester hours of credit in guidance and personnel services or consent of the instructor. [0826-1]

†8694. **Advanced Practicum in Counseling.** (3). Designed for practicing counselors. Consists of critical analysis of actual counseling interviews, including both individual and group sessions. Various methods employed for recording and observing counseling sessions, such as audio and/or video tapes and one-way vision screens. Counseling attitudes, techniques, and ethics will be considered. PREREQUISITE: GUID 7691, 7692, or appropriate counseling experience. [0826-8]

†9000. **Doctoral Dissertation.** (3-12). Credit may be earned over a period of several semesters. The dissertation may be an organized scientific contribution or a comprehensive analysis of theory and practice in a specific area. [0826-7]

†Grades of S, U, or IP will be given.

CURRICULUM AND INSTRUCTION

PROFESSOR JOHN A. MASLA, *Chairman*

Room 424, The College of Education Building

DR. THOMAS A. RAKES, *Coordinator of
Graduate Studies*

I. The Department of Curriculum and Instruction offers graduate programs leading to the Master of Education, Master of Science, Master of Arts in Teaching, Education Specialist, and Doctor of Education degrees. At the M.Ed. level, concentrations are offered in Curriculum, Instructional Design and Technology, Early Childhood Education, Elementary Education, Secondary Education, Mathematics Education, Science Education, English/Language Arts Education, Reading, Social Studies Education, and Foreign Language Education. At the M.S. level, concentrations are offered in Curriculum, Instructional Design and Technology, Early Childhood Education, Higher Education, Adult Education, and Reading. At the M.A.T. level, concentrations are offered in Early Childhood Education, Elementary Education, Secondary Education, Mathematics Education, Science Education, English/Language Arts Education, Social Studies Education, Foreign Language Education, and *Business Education. At the Ed.S. and Ed.D. levels, concentrations are offered through a major in Curriculum and Instruction in Curriculum, Instructional Design and Technology, Early Childhood Education, Higher Education, Adult Education, Elementary Education, Secondary Education, Mathematics Education, Science Education, English/Language Arts Education, Reading, Social Studies Education, Foreign Language Education, *Business Education, and Music Education (Ed.S. only). All programs designed for certification are approved by the National Council for the Accreditation of Teacher Certification (NCATE).

*For details concerning these programs see the Business Education and Office Management Department.

II. M.Ed. Degree Program

A. Program Admission

Students must have a G.P.A. of 2.5 (on a 4 point system) and a Miller Analogy Test score of 27 or a G.R.E. score of 800 for automatic admission. Students with grades or scores below these minimums will be reviewed by the Department Chairman.

B. Program Prerequisites

Candidates must have had at least two years of teaching experience or its equivalent before the degree is awarded. A teacher's professional certificate is required.

C. Program Requirements

1. A total of 33 semester hours is required.

2. The major will consist of 18 semester hours as follows:

a. CIED 7002 and 7050

b. 6-9 semester hours of course work within the department emphasizing curriculum, methods, and research in teaching specialty

c. 3-6 semester hours of selectives within the department supportive of the teaching specialty and applicable to teaching level but not ordinarily limited to the teaching specialty

3. Electives (0-3 semester hours) in any department; must be supportive and applicable to the teaching specialty

4. EDRS 7521 and 3 semester hours in cultural or psychological foundations of education

5. 9 semester hours must be taken in supportive collateral courses outside the College of Education

III. M.S. Degree Program

A. Program Admission

This degree is available to individuals who have an interest in working in educational instructional settings outside the K-12 areas, such as instructional media, allied health education, clinical reading, and pre-school education, or who are not working in areas requiring teacher certification, or who have no need to acquire certification. Students must have a G.P.A. of 2.5 (on a 4 point system) and a Miller Analogy Test score of 27 or a G.R.E. score of 800 for automatic admission. Students with grades or scores below these minimums will be reviewed by the Department Chairman.

B. Program Prerequisites

The student must present one of the following:

1. six semester hours of undergraduate work in the foundations of education areas (cultural and/or behavioral)

2. satisfactory scores on Advanced Education Section of the G.R.E.

3. background experiences equivalent to prerequisites 1 or 2

C. Program Requirements

1. A minimum of 36 semester hours is required.

2. The major will consist of 18-21 semester hours including CIED 7002 and 7050.

3. Selectives — 12-15 semester hours. The selectives taken depend on the undergraduate background, previous experiences of the student, and the nature of the major area of concentration. A minimum of 6 semester hours of the supportive work must be taken outside the College of Education, and a minimum of 6 semester hours of supportive collateral work must be taken within the College of Education but outside the major department.

4. EDRS 7521 — 3 hours

5. The student's advisor will approve all courses in accordance with program requirements.

IV. M.A.T. Degree Program

Programs are available for students who wish to qualify for teacher certification as well as for students who already hold teacher certification.

A. Program Admission

1. Students must have a G.P.A. of 2.5 (on a 4 point system) and approximately a 3.0 in teaching endorsement area or in upper division hours.

2. A Miller Analogy score of 41 or a G.R.E. score of 900 is required.

B. Program Prerequisites

Students must hold a bachelor's degree from an appropriately accredited college or university.

C. Program Requirements

1. For Students Seeking Certification

a. A minimum of 45 semester hours is required.

b. The major will consist of 24-27 semester hours as follows:

(1) CIED 7002 and 7050

(2) Student Teaching (9 hours)

(3) 6-9 hours of course work within the department emphasizing curriculum, methods, and research in the teaching specialty

(4) 0-3 hours of selectives within the department supportive of teaching specialty and applicable to teaching level, but ordinarily not limited to teaching specialty

c. 9 semester hours in the teaching endorsement area outside the College of Education

d. EDRS 7521, EDFD 7001, and EDPS 7121

e. The student must satisfy requirements in General Education and must have met, or will have met upon completion of the program, the undergraduate requirements or their graduate equivalents in the field of study in which the student is seeking certification.

Students seeking certification through the Master of Arts in Teaching program must refer to the undergraduate catalog requirements and procedures for admission to the Teacher Education Program and for student teaching and confer with the Director of Certification concerning certification requirements. Students must make formal application for admission to the Teacher Education Program immediately upon entering the program. The deadlines for filing an application for student teaching are March 1 for Fall student teaching and October 15 for Spring student teaching.

2. For Students Who Hold Secondary Certification

a. A minimum of 36 semester hours is required.

b. The major will consist of 18 semester hours as follows:

(1) CIED 7002 and 7050

(2) 6-9 semester hours of course work within the department emphasizing curriculum, methods, and research in the teaching specialty

(3) 3-6 semester hours of selectives within the department supportive of the specialization and applicable to teaching level, but not ordinarily limited to the teaching specialty

(4) 0-3 semester hours of electives (from any department) supportive of and applicable to the teaching level or specialty

c. 12-15 semester hours in the teaching endorsement area outside the College of Education

d. EDRS 7521 and 3 semester hours in cultural or psychological foundations of education

V. Ed.S. Degree Program

A. Program Admission

1. Before completing twelve semester hours of post-master's credit, the student should present Graduate Record Examination scores and declare his intentions concerning his request for admission to an Ed.S. program as soon as possible after his initial enrollment for post-master's credit. University requirements for admission to the Graduate School must also be met.

2. The Department of Curriculum and Instruction will evaluate the information in the Graduate School file and make a recommendation to the Dean of the Graduate School concerning the student's eligibility to take the qualifying examination for admission to candidacy for the Ed.S. degree.

mentation to the Dean of the Graduate School concerning the student's eligibility to take the qualifying examination for admission to candidacy for the Ed.S. degree.

B. Transfer Credit

1. Six semester hours of post-master's transfer credit may be permitted for the Ed.S. degree.

C. Program Requirements

1. A minimum total of 66 semester hours of graduate credit beyond the bachelor's degree is required.

2. A minimum of 9 semester hours of courses numbered 800 or above is required.

3. The major will consist of 30 semester hours as follows:

a. CIED 8000, 8002, and 8050

b. 9-12 semester hours of course work within the department emphasizing curriculum, methods, and research in the teaching specialty

c. 6-9 semester hours of selectives within the department supportive of the teaching specialty and applicable to teaching level, but ordinarily not limited to teaching specialty.

4. An additional 15 semester hours of collateral courses must be taken outside the College of Education.

5. A minimum of 9 semester hours of collateral work is required outside the major department but in the College of Education.

6. 6 semester hours of research: EDRS 7521 and 8541

7. 6 semester hours in the cultural and/or psychological foundations of education

8. Candidates for the Ed.S. degree must spend one semester or two summers for both terms beyond the Master's degree a full-time resident students.

9. Two years of teaching experience (or its equivalent) are required.

VI. Ed.D. Degree Program

A. Program Admission

1. Before completing 12 semester hours of post-master's credit, the student should present Graduate Record Examination scores and declare his intentions concerning his request for admission to an Ed.D. program as soon as possible after his initial enrollment for post-master's credit. University requirements for admission to the Graduate School must also be met.

2. The Department of Curriculum and Instruction will evaluate the information in the Graduate School file and make a recommendation to the Dean of the Graduate School concerning the student's eligibility to take the qualifying examination for admission to candidacy for the Ed.D. degree.

B. Transfer Credit

1. No more than one year of transfer work (30 semester hours above the Master's) may be applied to the requirements for the Ed.D.

C. Program Requirements

1. A minimum total of 99 semester hours of graduate credit beyond the bachelor's degree with a minimum of 21 semester hours selected from courses numbered 8000 and above are required.

2. The major will consist of 48 semester hours (39-63 for higher education) as follows:

a. Departmental core for all concentrations: CIED 8002, 8050, and 12 hours in 9000.

b. For all concentrations except higher education:

(1) 12-15 semester hours in course work within the department emphasizing curriculum, methods, and research in the teaching specialty

(2) 12-15 semester hours of selectives within the department supportive of the teaching specialty and applicable to the teaching level, but not ordinarily limited to the teaching specialty

(3) 0-3 semester hours of collateral electives, from any department, supportive of and applicable to the concentration

c. For the higher education concentration:

(1) 12 semester hours Higher Education Core: GUID 862, EDAS 8192, CIED 8200, and EDFD 8002

(2) 3-15 semester hours of course work within the department emphasizing curriculum, methods, and research in the specialty area

(3) 3-15 semester hours of selectives within the department supportive of and applicable to the specialty area, but not ordinarily limited to that area

(4) 0-15 semester hours of collateral electives, from any department, supportive of and applicable to the concentration

(5) Students completing the higher education concentration must complete a minimum of 30 semester hours within the major department.

3. A minimum of 21 semester hours (15-36 for concentration higher education) of collateral work must be taken outside the College of Education.

4. A minimum of 12 semester hours (6-18 for concentration higher education) of collateral work outside the major department but in the College of Education is required.

5. 9 semester hours of research: EDRS 7521, EDRS 8541, and EDRS 8522 or 8542 or 8543

6. 9 semester hours (6-9 for concentration in higher education of cultural and/or psychological foundations of education.

7. Candidates for the Ed.D. degree must spend two consecutive semesters as full-time resident students or meet requirements for the alternative residency program.

8. Two years of teaching experience (or its equivalent) are required.

The Department of Curriculum and Instruction offers a number of areas of concentration. These include Curriculum, Instructional Design and Technology, Early Childhood Education, Elementary Education, Secondary Education, Higher Education

Adult Education, English/Language Arts Education, Foreign Language Education, Mathematics Education, Reading, Science Education, and Social Studies Education.

ELED 6211. Comparative Study in Early Childhood Education. (3-6). Examines and compares early childhood programs in the United States and other countries. Foreign and domestic travel may be planned in conjunction with this course. **PREREQUISITE:** Consent of instructor. [0823-1]

ELED 6751. Workshop in the Reading Program. (3-6). Designed to utilize group study, discussion, demonstration, and directed practice to study problems of reading. Participants will have an opportunity to pursue their own reading related interests in content, methods, materials, and evaluation. [0830-1]

ELED 6761. Aerospace Education in Schools. (3). Consideration of aerospace content and flight experiences. Emphasizes classroom applications. [0834-1]

M675 CURRICULUM AND INSTRUCTION (CIED)

NOTE: Course numbers at the end of the description are former numbers. If the course has been taken under this former number, it may not be repeated unless so specified.

CURRICULUM

002-8002. Fundamentals of Curriculum Development. (3). The fundamental aspects of curriculum development and the basic issues underlying curriculum. Includes educational directions, ordering potential experiences, patterns of curriculum organization, and the determination of principles and procedures to be used in changing, evaluating, and sustaining the curriculum. (ELED 7401-8401). [0829-1]

003-8003. Curriculum Design and Evaluation. (3). Considers a variety of curriculum designs and their implications for educational practice. [0829-1]

004-8004. Innovative Curricula: Development and Implementation. (3). Generic issues, problems, processes, and strategies relative to changes occurring with the implementation of innovative curricula. **PREREQUISITES:** CIED 7002-8002 and CIED 050-8050. [0829-1]

008-8008. Seminar in Curriculum Improvement. (3). An introduction to curriculum decision-making. Includes curriculum development as a social process, issues and trends, theories and techniques of curriculum leadership, and translations of curriculum designs into practice. (EDUC 7531-8531). [0829-1]

INSTRUCTIONAL DESIGN AND TECHNOLOGY

050-8050. Instructional Strategies. (3). Emphasizes various instructional models, their applications for various age groups, and their relationship to curricula. Individual and group participatory activities. (EDUC 7501-8501). [0801-1]

051-8051. Simulation and Gaming. (1-3). Surveying, analyzing, and designing simulation and gaming activities appropriate for classroom situations. Individual and group participatory activities. (EDUC 7205-8205). [0801-1]

052-8052. Individualizing Instruction. (3). Analyzing various paradigms for individualizing instruction. Emphasis will be placed on designing, developing, evaluating, and managing alternative models. (EDUC 7309-8309) [0801-1]

053-8053. Diagnostic Prescriptive Teaching. (3). Utilization of diagnostic instruments appropriate for use by classroom teachers from preschool through the 12th grade. Application of findings to develop individually prescribed curriculum. (ELED 732-8132, ELED 7311). [0801-1]

054-8054. Creativity in Teaching and Curriculum. (3). Instructional strategies relevant to development of creative potential. Activities include problem-solving, metaphorizing, inventing, synectics, evaluation, questioning, brainstorming, creative writing and thinking, and spontaneity. [0801-1]

055-8055. Futurism in Classroom Instruction. (3). An exploration of the role of futurism in classroom instruction. Includes forecasting, scenarios, future shock, simulations, futurists' predictions, future-focused role-image, education for tomorrow and related resource materials. Individualized and group participatory activities. [0801-1]

056-8056. Information Processing: Models of Instruction. (3). Concentration on strategies of teaching including the processing of course subject information, organization of data, generation of concepts and solutions, and integration and application of information. Emphasis on direct and immediate application of strategies to classroom teaching. [0801-1]

057-8057. Personal Sources: Models of Instruction. (3). Instructional strategies emphasizing personal development and group interaction using subject matter as the vehicle. Applicable to all content areas and levels of instruction. Includes classroom meetings, laboratory method, group investigation, synectics, non-directive teaching, self-awareness diagnosis, and others. Emphasis on immediate, direct application to classroom teaching. [0801-1]

058-8058. Values Clarification for Education. (3). Values clarification strategies including those relevant to improving academic and social climate. Materials applicable to various subject areas. [0801-1]

070-8070. Preparation of Inexpensive Instructional Materials. (3). Design, preparation, and utilization of a variety of readily available instructional materials. Laboratory practice. Includes preparation of both transparent and non-transparent graphics. (EDUC 7302-8302). [0801-1]

071-8071. Principles and Applications of Educational Media. (3). Analysis of communication theory and development of message design in utilization of multi-sensory aids in theoretical and practical environments. Development and presentation projects for class analysis and laboratory experience in use, evaluation and selection of media and equipment. (EDUC 7303-8303). [0801-1]

072-8072. Advanced Educational Media Production. (3). Design and development of multi-media instructional materials,

including slide-tape series, film-strips, transparencies, photographic print series, recordings and other multi-sensory forms which contribute to the improvement of learning. **PREREQUISITE:** CIED 7070-8070 or consent of instructor. [0801-1]

074-8074. Administration and Organization of Educational Media Programs. (3). Considers problems of organizing, administering, evaluating, and implementing media programs. **PREREQUISITE:** Permission of the instructor. (EDUC 7308-8308). [0801-1]

078-8078. Seminar in Instructional Design and Technology. (3). Professional and research problems in instructional strategies, design, and technology. **PREREQUISITE:** Permission of instructor. [0801-1]

079-8079. Implications of Research for Curriculum and Instruction. (3). Identifies and summarizes past and current research in curriculum improvement and instruction, with implications for the future. Emphasis on direct application to classroom teaching. **PREREQUISITE:** EDRS 7521 or consent of instructor. [0801-1]

EARLY CHILDHOOD EDUCATION

7100-8100. Values and Principles of Early Childhood Education. (3). Current curricula, trends, and issues related to early childhood education. (ELED 7211-8211). [0823-1]

7101-8101. Nursery, Kindergarten and Primary Teaching. (3). Innovative methods and techniques for teaching nursery, kindergarten, and primary children. (ELED 7411-8411). [0823-1]

7105-8105. Piaget in Early Childhood Education. (3). Piaget's early childhood development patterns and the implication for classroom instructional practices. [0823-1]

7106-8106. Montessori in Early Childhood Education. (3). Montessori theory, philosophy, pedagogy, and didactic apparatus and research. Analysis of past and current research of Montessori programs. [0823-1]

7108-8108. Seminar in Early Childhood Education. (3). Analysis of contemporary issues and trends in the field of early childhood education. (ELED 8215). [0823-1]

7109-8109. Implications of Research in Early Childhood Education. (3). Analysis of current research related to early childhood education. Emphasis on direct application to classroom teaching. **PREREQUISITES:** EDPS 7111 and EDRS 7521 or consent of the instructor. [0823-1]

ELEMENTARY EDUCATION

7130-8130. Elementary School Curriculum. (3). Analysis of curriculum theories, materials, and practices as they affect the child, his potential, and his growth. (ELED 7421-8421). [0802-1]

7131-8131. Parent-Teacher-Child Relationships. (3). Focus on parent-teacher, parent-child, and child-teacher interactions as they relate to the instructional program. (ELED 7112-8112). [0802-1]

7132-8132. Studying the Elementary School Child. (3). A study of the operational tools and underlying concepts used in analyzing and diagnosing children ages 3 thru 12 with respect to their physical, social, emotional, and intellectual development with an emphasis on application of the findings in terms of individually prescribed curriculum. (ELED 7311) [0802-1]

7138-8138. Seminar in Elementary Education. (3). Analysis of contemporary issues and trends in elementary education. (ELED 8202). [0802-1]

SECONDARY EDUCATION

7160-8160. Modern Methods in Secondary Education. (3). Secondary school teaching and how the secondary school can perform its role most effectively. (SCED 7301-8301). [0803-1]

7161-8161. The Secondary School Curriculum. (3). Examination of the content and organization of the secondary curriculum. Involves both classroom studies and the non-classroom services and activities. [0803-1]

7165-8165. The Middle School. (3). Investigates the emerging concepts of the middle school and trends in classroom procedures and curriculum. (EDUC 7431-8431). [0804-1]

7168-8168. Seminar in Secondary Education. (3). Analysis of problems, current issues, and trends in secondary education. [0803-1]

HIGHER EDUCATION

7200-8200. College and University Curriculum. (3). Analysis of the development, implementation, and evaluation of curriculum in colleges and universities as well as major trends and problems in today's post-secondary education which affect curriculum. [0805-1]

7201-8201. College Teaching. (3). Designed for persons who teach (or aspire to teach) in post-secondary educational institutions. Includes an examination of major issues and trends in teaching-learning in higher education and of various teaching approaches which can be helpful in meeting diverse needs of students. [0805-1]

7203-8203. Experiential Learning in Higher Education. (3). Experiential learning and its relationship to the curriculum of higher education, including philosophical foundation, defining educational outcomes, assessment, portfolio preparation, faculty development, and program planning and evaluation. [0805-1]

7209-8209. Implications of Research in Higher Education. (3). Significant trends in research in post secondary education related to teaching-learning and curriculum. Emphasis on direct application to classroom teaching. **PREREQUISITE:** EDRS 7521 or consent of the instructor. [0805-1]

ADULT EDUCATION

7250. Introduction to Adult Education. (3). Overview of the field of adult education. Includes historical development, program

planning, methods and techniques, and the nature of the adult learner. (ADED 7080). [0807-1]

7251-8251. Methods and Techniques in Adult Education. (3). Analysis of the methods and techniques available for working with adults, including the community development method, and their applicability under varying circumstances. (ADED 7081). [0807-1]

7252-8252. Curriculum Planning in Adult Basic Education. (3). Principles of curriculum building and their applicability to adult basic education clientele. (ADED 7245). [0807-1]

7255-8255. The Adult Learner. (3). Examination of the major learning styles of adults. Includes factors which affect learning ability, achievement, lifelong learning, and motivation throughout the adult life cycle. (ADED 7130). [0807-1]

7256-8256. Community Programs in Adult Education. (3). Analysis of adult education programs conducted by various organizations, agencies, and groups as a primary, supplementary, or complementary function. (ADED 7099-8099). [0807-1]

7258-8258. Adult Education Seminar. (3-6). Problems and issues confronting adult education, with emphasis on review and interpretation of related research. **PREREQUISITE:** Permission of instructor. (ADED 7300). [0807-1]

7259-8259. Implications of Research in Adult Education. (3). Analysis of adult education research consistent with problems related to individual interests and needs. Emphasis on direct application to classroom teaching. **PREREQUISITES:** EDRS 7521 or consent of the instructor. (ADED 7795-8795). [0807-1]

ENGLISH/LANGUAGE ARTS EDUCATION

7300-8300. Language Arts Curriculum in the Elementary School. (3). Examines fundamentals of curriculum development related to the integration of the language arts in the elementary school. [0802-1]

7301-8301. The Teaching of Children's Literature in the Elementary School. (3). Methods of teaching children's literature in the elementary school, including story telling, dramatization, choral speech work. (ELED 7241). [0802-1]

7302-8302. Teaching Literature to Adolescents. (3). Methods of teaching adolescent literature including fiction, non-fiction, drama and poetry. (SCED 7343-8343). [0803-1]

7303-8303. English/Language Composition: Curriculum of the Secondary School. (3). Emphasis on developing and implementing a sequential curriculum in secondary school language and composition. (SCED 7342-8342). [0803-1]

7308-8308. Seminar in English/Language Arts. (3). Emphasis on oral and written language models and how these models can be used in the development of a student-centered language arts curriculum. K-14. (SCED 7341-8341). [0801-1]

7309-8309. Implications of Research for Language Arts. (3). Analysis of current research related to language arts. Emphasis on direct application to classroom teaching. **PREREQUISITE:** EDRS 7521 or consent of the instructor. K-14. (ELED 8242). [0801-1]

FOREIGN LANGUAGE EDUCATION

7350-8350. Teaching Foreign Languages in the Elementary School. (3). For elementary teachers with a foreign language background or secondary foreign language teachers. Emphasis on a survey of successful FLES programs, methods of instruction, materials development, and coordination of instruction from one grade level to the next into the secondary school. [0802-1]

7351-8351. Teaching Foreign Languages in the Secondary School. (3). Methods of teaching foreign languages in grades 7-12, and review and evaluation of current trends in language instruction. [0803-1]

7352-8352. Curriculum in Foreign Language Education. (3). Special curriculum projects and programs in foreign languages, with particular content varying depending on the language of specialization. [0829-1]

MATHEMATICS EDUCATION

7500-8500. Teaching of Mathematics in the Elementary School. (3). Consideration of principles and techniques of teaching mathematics in elementary schools including study and evaluation of current instructional materials. (ELED 7254-8254). [0833-1]

7501-8501. Elementary Mathematics Education Curriculum. (3). Issues and trends in elementary school mathematics curriculum. Appropriate current reports of professional groups will be considered. (ELED 7252-8252). [0833-1]

7502-8502. Teaching Mathematics in the Secondary School. (3). Consideration of principles and techniques of teaching mathematics in secondary schools including study and evaluation of materials of instruction. **PREREQUISITE:** Permission of the instructor. (SCED 7351-8351). [0833-1]

7503-8503. Secondary Mathematics Education Curriculum. (3). Analysis of the secondary mathematics curriculum as it relates to sound educational practices. [0833-1]

7508-8508. Seminar in Mathematics Education. (3). Study and discussion of selected mathematics education topics of concern or special interest. [0833-1]

7509-8509. Implications of Research in Mathematics Education. (3). Analysis and implication of research in mathematics education. **PREREQUISITE:** EDRS 7521 or consent of instructor. [0833-1]

READING

(NOTE: For practicum in reading, see 7800-8800.)

7540-8540. Modern Reading Instruction. (3). A survey of the methods, materials, and approaches used in the teaching of reading. Includes history, philosophy, materials, and research supporting each approach. **PREREQUISITE:** Teaching experience or consent of the instructor. (READ 7243-8243). [0830-1]

7541-8541. The Diagnosis of Reading Problems. (3). Focuses on principles of measurement and evaluation in reading. Stresses formal and informal techniques used by the classroom teacher in assessing a child's reading potential. Considers a multiple causation approach to reading difficulties. PREREQUISITES: Teaching experience and CIED 7540 or consent of the instructor. (READ 7244-8244). [0830-1]

7542-8542. The Treatment of Reading Problems. (3). Materials, programs, and techniques used to correct reading disabilities. Emphasizes corrective, remedial, and clinical approaches to the treatment of reading problems. PREREQUISITE: CIED 7540 and 7541 or consent of the instructor. (READ 7245-8245). [0830-1]

7543-8543. Teaching Reading to Exceptional Children. (3). Emphasizes identification, treatment, and materials for teaching reading to the exceptional child, e.g., the bright and gifted, the slow learner, and the physically handicapped. (READ 7246-8246). [0830-1]

7544-8544. Teaching Reading in the Content Area. (3). Emphasizes reading skills necessary for mastery of the academic disciplines. Includes techniques for teaching vocabulary, comprehension, study skills, and reading rates. (READ 7344-8344). [0830-1]

7545-8545. Curriculum and Supervision in Reading. (3). Focuses on the supervision, organization, and evaluation of reading programs. Specific attention given to the operation of school and clinical based reading programs. PREREQUISITES: CIED 7540, 7541, and 7542 or consent of the instructor. (READ 7442-8442). [0830-1]

7547-8547. Reading Clinic. (3-6). Emphasis on practical experiences of clinical diagnosis and treatment. PREREQUISITES: CIED 7540-8540 or consent of the instructor. (READ 7841-8841). [0830-8]

8549. Implications of Research in Reading. (3). Systematic appraisal of current research in reading with emphasis on classroom application. PREREQUISITE: EDRS 7521 or consent of the instructor. (READ 8533). [0830-1]

SCIENCE EDUCATION

7600-8600. Teaching Science in the Elementary School. (3). Current developments in elementary science education in both process and strategies of teaching science. Examination of classroom teaching practices appropriate for elementary school science instruction. (ELED 7262). [0834-1]

7601-8601. Elementary School Science Curriculum. (3). Examination of science curriculum materials. Focus on procedures for evaluation of curriculum and materials and analysis of local curricula in science. Includes techniques for conducting science workshops and inservice programs. (ELED 7264-8264). [0834-1]

7602-8602. Teaching Science in the Secondary School. (3). An examination and analysis of modern science teaching strategies in the secondary school. Emphasis on information processing and classroom learning strategies. (SCED 7361-8361). [0834-1]

7603-8603. Secondary School Science Curriculum. (3). Analysis of secondary science content and materials. Emphasis on current concepts of the science curriculum and the selection of appropriate materials for teaching the various sciences. (SCED 7362-8362). [0834-1]

7608-8608. Seminar in Science Education. (3). A survey of selected problems and topics in science education. (ELED 7263-8263). [0834-1]

7609-8609. Implications of Research in Science Education. (3). Review of current science education research. Emphasis on practical application of this research to instruction and the curriculum in science education. PREREQUISITE: EDRS 7521 or consent of the instructor. [0834-1]

SOCIAL STUDIES EDUCATION

7650-8650. Teaching of Social Studies in the Elementary School. (3). Consideration of principles and techniques for teaching social studies in the elementary school. (ELED 7273-8273). [0802-1]

7651-8651. Curriculum Development in Elementary Social Studies. (3). Emphasis on current curriculum developments consistent with the needs, interests, and social problems of elementary school children. Includes research, new programs and issues related to social studies curriculum. (ELED 7272-8272). [0802-1]

7652-8652. Teaching of Social Studies in Secondary School. (3). Consideration of principles and techniques for teaching secondary social studies. (SCED 7371-8371). [0803-1]

7653-8653. Secondary Social Studies Curricula. (3). Analysis of programs and curricular materials for secondary social studies education. (SCED 7372-8372). [0803-1]

7658-8658. Seminar in Social Studies Education. (3). A survey of current emphases in social studies education. (ELED 8274). [0801-1]

7659-8659. Implications of Research in Social Studies Education. (3). Review and analysis of significant research in the field of social studies. Emphasis on direct application to classroom teaching. PREREQUISITE: EDRS 7521 or consent of the instructor. (ELED 8275). [0801-1]

GENERAL

†7701. Workshop in Curriculum and Instruction. (1-9). Various areas of the curriculum and elements of instruction are explored. Active student participation is included. See departmental listing in *Schedule of Classes* for exact subtitles. [0829-1]

6950. Selected Topics in Curriculum and Instruction: — — —. (1-3). Designed to allow for study of current topics in the areas of curriculum and instruction at all levels. May be repeated with a change in topic and content emphasis. See departmental listing in *Schedule of Classes* for exact sub-titles. [0829-1]

†7800-8800. Internship in Curriculum and Instruction: — —. (1-12). Includes student teaching, supervised practicum, and

other similarly organized professional experiences in areas such as reading, kindergarten, elementary, secondary, higher education, or other appropriate instructional areas. Designed to complement on-campus course study with actual on-site professional experience in an integrated approach focused on programmatic, career, and individual student goals and needs. [0829-5]

7850-8850. Supervision of Student Teaching. (3). Principles and techniques of student teaching supervision. Designed for supervising teachers, administrators, coordinators of student teaching programs, and college personnel. (EDUC 7801-8801). [0801-1]

7991-8991. Independent Study in Curriculum and Instruction: — —. (1-9). Includes special problems, field studies, and other similarly organized professional experiences under the direct supervision of a faculty member within the department. Emphasis on student planning, initiating, conducting, and completing independent studies, projects, etc., designed to meet programmatic goals and individual needs. [0829-8]

†7996. Thesis. (3-6). Concentrates on the identification, delineation, organization, and writing of the thesis. Includes the definition of the problem, collection of data, methods of analysis, conclusions, and recommendations. The outline must be approved by the faculty members directing the study as well as the department chairman. Application for writing the thesis must be filed with the Dean of Graduate Studies at the time of registration. PREREQUISITE: Demonstrated Scholarship. [0829-6]

†8000. Education Specialist Thesis. (3-6). Individual study of a research problem, closely related to the student's field of major concentration. [0829-6]

†9000. Doctoral Dissertations. (3-12). Credit may be earned over a period of several semesters. The dissertation may be an organized scientific contribution or a comprehensive analysis of theory and practice in a specific area. [0829-7]

†Grades of S, U, or IP will be given.

DISTRIBUTIVE EDUCATION

PROFESSOR C. EDWIN PEARSON

Chairman and Coordinator of Graduate Studies

Room 101

The College of Education Building

I. The Department of Distributive Education offers graduate study leading to a Master of Education degree with a major in Distributive Education.

II. M.Ed. Degree Program

A. Program Admission

1. Meet the requirements for admission to the Graduate School
2. Meet the requirements for admission to a certificated graduate program for the College of Education

B. Program Prerequisites

1. DTED 3010 or equivalent
2. 9 semester hours in marketing, salesmanship, retailing or advertising
3. 2 years verified practical experience in distributive occupations.

C. Program Requirements

1. A total of 30 semester hours for the student who elects to write an acceptable thesis.
2. If a thesis is not submitted, the overall degree requirements shall be 33 semester hours.
3. 18 semester hours of 7000 level courses.
4. 18 semester hours in the major (12 hours must be at the 7000 level) as follows:
 - a. 9 semester hours selected from the following: DTED 6611, 6680, 7620, 7630, or 7650
 - b. 3 semester hours elective from Marketing or Distributive Education
 - c. 6 semester hours electives planned in conference with the advisor
 5. 9 semester hours outside the College of Education in Marketing and/or Management
 6. 3 semester hours in EDRS 7521
 7. 3 semester hours in Educational Psychology, Cultural Foundations or Curriculum

M600 DISTRIBUTIVE EDUCATION (DTED)

6611. Principles and Philosophy of Vocational Education. (3). History, philosophy, principles and objectives of vocational education; curriculum problems; contribution of vocational education to general education; trends and research problems in vocational education. [0838-1]

6641. Techniques and Coordination of Cooperative Occupational Education. (3). Selecting training agencies, developing job analyses; selecting and briefing the training supervisor; selecting and working with advisory committees; utilizing other community resources. [0838-1]

6680. Development and Supervision of Vocational Student Organizations. (3). Aims and objectives of vocational student organizations and their value in occupational preparation; their development, curricular integration, operation and evaluation. [0838-1]

†6690. Workshop in Distributive Education: — —. (1-9). Group study of selected phases of the marketing and distributive edu-

cation program; designed to assist both in service and prospective marketing and distributive education teacher-coordinates in improvement of the teaching-learning processes contained in the three phases of program operation: classroom instruction on the job training, and youth organization advisement. See *Schedule of Classes* for topic. May be repeated; however, credit applicable to a degree is limited. [0838-1]

6700. Distributive Education Study Tour. (1-3). An opportunity to gain on the scene knowledge about specific areas of instruction within marketing and distributive education. May be repeated; however, the student should consult with major advisor to determine the maximum credit which may be applied to a degree program. PREREQUISITE: Permission of instructor. [0838-9]

†6871. Student Teaching in Distributive Education. (3-9). Observation of the operation of a high school marketing and distributive education program and of methods of teaching participation in school activities, culminating in assuming responsibility for teaching and coordinating entire groups. PREREQUISITES: DTED 3010, 4630. [0838-5]

7620. Administration and Supervision of Vocational Education. (3). Designed for the vocational teacher or public school administrator desiring to accept responsibility for supervising vocational education programs at local, area or state levels. Include program design; curriculum construction; classroom supervision; physical layout; administration of supplies, textbooks and equipment; state and federal legislation; accounting and reporting. [0838-1]

7630. Improvement of Instruction in Marketing, Merchandising, and Management. (3). A critical evaluation of content, visual aids, methods and testing in marketing, merchandising and management courses taught in high school and post-secondary marketing and distributive education program. [0838-1]

7650. Problems in Distributive Education. (1-3). Individual investigation and reports of specific problems. [0838-8]

7660. Organizing and Teaching Adult Distributive Education. (3). The techniques of working with trade associations, employment services, Manpower programs, itinerant instructors, unique features of planning, organizing, promoting, teaching and evaluating balanced continuing education programs in marketing and distribution occupations. [0838-1]

7670. Post-Secondary Distributive Education. (3). For teachers and administrators. Objectives, nature and scope of post-secondary marketing and distributive education programs, including research in planning, developing, operating and evaluating programs in area vocational-technical schools, technical institutes, and community junior colleges. [0838-1]

7690. The Project Method in Distributive Education. (3). Development, use and coordination of class, small group, individual vocational projects providing simulated occupational experiences for high school marketing and distributive education students. PREREQUISITES: DTED 4630 and DTED 464 [0838-1]

7992. Selected Topics in Distributive Education: — —. (1-3). Lectures and conferences covering selected areas of current interest (including program operation, student selection, placement, curriculum development, methodology, coordination, advisory committees, reporting, follow-up procedure, youth organizations, program trends and specialization). See *Schedule of Classes* for topic. May be repeated; however, credit applicable to a degree is limited. PREREQUISITE: Permission of instructor. [0838-1]

7993. Work Experience in Distribution for Teachers. (1-3). For graduate students needing recent practical experience in a distributive occupation. Student will be employed in cooperative businesses and will prepare a comprehensive written report practices, experiences and problems and special investigation. PREREQUISITES: Teaching experience. [0838-8]

†7996. Thesis. (3-6). [0838-6]

†Grades of S, U, or IP will be given.

EDUCATIONAL ADMINISTRATION AND SUPERVISION

PROFESSOR FRANK W. MARKUS

Chairman

Room 202

The College of Education Building

DR. W. ELZIE DANLEY, *Coordinator of Graduate Studies*

I. In keeping with the policy of the College of Education, the programs offered by the Department of Educational Administration and Supervision are based upon a general foundation, or common core, of knowledge of the profession, as opposed to programs of unique specialization. To assure this general foundation, each candidate is required to complete minimum requirements which include a common core of knowledge of the profession. All selectives are cooperatively developed between student and advisor. The purpose is to select course(s) that provide the "best fit" among the student's identified needs and career objectives.

II. The Department of Educational Administration and Supervision offers several programs leading to degrees of Master of Science, Master of Education, Education Specialist, and Doctor of Education. The major is in Educational Administration & Supervision. At the M.Ed. level, concentrations are available in Elementary and Secondary. At the M.S. level, the concentration is General (Educational Administration and Supervision). At the

Ed.S. level, concentrations are available in Elementary, Secondary, Superintendency and Higher Education. The Ed.D. programs with a major in Educational Administration and Supervision are offered with no concentration or a concentration in Higher Education or a concentration in Adult, Continuing and Community Education.

II. M.S. Degree Program

A. Program Admission

In addition to the requirements specified generally for admission to graduate school, the student must have the approval of the department chairman.

This program is designed for non-certified personnel.

B. Program Prerequisites

Six semester hours of undergraduate work in the foundations of education areas (cultural, behavioral, curriculum) OR

Satisfactory score on Advanced Education section of G.R.E., R

Background experiences equivalent to prerequisites 1 or 2 above.

C. Program Requirements

A total of thirty-six semester hours is required for the degree.

Eighteen to twenty-one semester hours in EDAS including DAS 7100 and EDAS 7400

Six to nine semester hours in the College of Education of which at least six hours must be outside the major department

Three semester hours in research (EDRS 7521)

Six to nine semester hours selected from offerings outside the College of Education, which are supportive to the major and provide the "best" fit among student identified needs and career objectives

V. M.Ed. Degree Program

A. Program Admission

In addition to the requirements specified generally for admission to graduate school, the student must have the approval of the department chairman.

B. Program Prerequisites

Teacher's professional certificate

C. Program Requirements

A total of 30 semester hours for the student who elects to write an acceptable thesis (EDAS 7996)

If the thesis is not submitted the overall degree requirements shall be 33 semester hours.

M.Ed. (Elementary Administration)

EDAS 7100, 7110, 7250

One course from the following: EDAS 7000, 7611, 7810

Two courses from the following: EDAS 7120, 7130, 7140, 7160, 7180

M.Ed. (Secondary Administration)

EDAS 7100, 7310, 7350

One course from the following: 7000, 7611, 7810

Two courses from the following: 7120, 7130, 7140, 7160, 7180

EDRS 7521 and CIED 7002

Nine semester hours outside the College of Education in the appropriate social/behavioral sciences and/or business administration

Three years of successful teaching and/or administrative experience at the appropriate educational level.

Ed.S. Degree Program

A. Program Admission

Before the student has completed twelve semester hours of post-masters credit the student should present graduate record examination scores and declare his intentions concerning his request for admission to an Ed.S. program as soon as possible after his initial enrollment for post-masters credit.

Meet the University's requirements for admission to the graduate school

The Department of Educational Administration and Supervision will evaluate the information in the graduate school file and make a recommendation to the Dean of the Graduate School concerning the student's eligibility to take the qualifying examination for admission to candidacy for the Ed.S. degree.

B. Transfer Credit

Upon approval of the student's advisory committee, the credit earned in another institution which would have been presented for consideration at the time the student is accepted for candidacy, will be transferred to apply toward the Ed.S. degree provided that the credit meets general University requirements.

Only six hours of transfer credit beyond the master's degree will be permitted for the Ed.S. degree.

C. Program Requirements

A minimum total of sixty-six semester hours of graduate credit beyond the bachelor's degree.

A minimum of nine semester hours selected from courses numbered 8000 or above.

Semester hours in the major concentration:

Education Specialist-Educational Administration and Supervision (Superintendency) thirty-six semester hours including the thesis or field study

Education Specialist-Educational Administration and Supervision (Elementary), (Secondary), or (Higher Education) thirty semester hours including thesis or field study

Six semester hours in thesis (EDAS 8000) or field study (EDAS 8001)

Nine semester hours of collateral work in the College of Education

Six semester hours in research (EDRS 7521-8521 and EDRS 541)

7. Six semester hours in College Core: Cultural and Psychological Foundations and Curriculum (CIED 7002)

8. Fifteen semester hours must be taken in the appropriate social/behavioral sciences, and/or business administration (minimum of six hours must be in one area)

9. Candidates for the Ed.S. degree must spend one semester or two summers for both terms beyond the masters degree as full-time resident students.

10. Three years of successful teaching and/or administrative experience at the appropriate educational level

VI. Ed.D. Degree Program

A. Program Admission

1. Before the student has completed twelve semester hours of post-masters credit the student should present graduate record examination scores and declare his intentions concerning his request for admission to an Ed.D. program as soon as possible after his initial enrollment of post-masters credit.

2. Meet the University's requirements for admission to the graduate school

3. The Department of Educational Administration and Supervision will evaluate the information in the graduate school file and make a recommendation to the Dean of the Graduate School concerning the student's eligibility to take the qualifying examination for admission to candidacy for the Ed.D. degree.

B. Transfer Credit

1. Upon approval of the student's advisory committee, the credit earned in another institution, which would have been presented for consideration at the time the student applied for candidacy, will be transferred to apply toward the Ed.D. degree provided that the credit meets general University requirements.

2. No more than one year of transfer work (thirty semester hours above the masters) can be applied to the requirements for the Ed.D.

C. Program Requirements (No Concentration)

1. A minimum total of 99 semester hours of graduate credit beyond the bachelor's degree, with a minimum of twenty-one semester hours selected from courses numbered 8000 and above

2. 48 semester hours in the major concentration including twelve semester hours in dissertation (EDAS 9000)

3. 12 semester hours of collateral work in the College of Education

4. 9 semester hours of research (EDRS 7521, EDRS 8541, and EDRS 8522 or 8542)

5. 9 semester hours in College Core: Cultural and Psychological Foundations and Curriculum (CIED 7002)

6. 21 semester hours outside the College of Education in appropriate social/behavioral sciences and/or business administration. A minimum of nine hours must be in one area.

7. Candidates for the Ed.D. degree must spend two consecutive semesters as full-time resident students or meet requirements for the alternate residency program.

8. Three years of successful teaching and/or administrative experience at the appropriate educational level

D. Program Requirements (Higher Education Concentration)

1. A minimum total of 99 semester hours of graduate credit beyond the bachelor's degree, with a minimum of twenty-one semester hours selected from courses numbered 8000 and above

2. 39-63 semester hours in higher education concentration area including twelve semester hours in dissertation (EDAS 9000)

3. 6-18 hours of collateral work in the College of Education

4. 9 semester hours of research (EDRS 7521, EDRS 8541, and EDRS 8522 or 8542)

5. 6-9 semester hours in College Core: Cultural and Psychological Foundations and Curriculum (CIED 7002)

6. 15-36 semester hours outside the College of Education in appropriate social/behavioral sciences and/or business administration. A minimum of 9 hours must be in one area.

7. Candidates for the Ed.D. degree must spend two consecutive semesters as full-time resident students or meet requirements for the alternate residency program.

8. Three years of successful teaching and/or administrative experience at the appropriate educational level

E. Program Requirements (Adult, Continuing and Community Education Concentration)

1. A minimum total of 99 semester hours of graduate credit beyond the bachelor's degree, with a minimum of twenty-one semester hours selected from courses numbered 8000 and above.

2. 12-18 hours in the major: EDAS 7000, 7400, 8611, 8612, 8811, and 8171 or 8173 (internship)

3. 18-24 hours in department supportive of concentration

4. 12 hours in Dissertation (9000)

5. 9 hours in research: EDRS 7521, 8541, and 8522 or 8542

6. 33 hours supportive collateral including: CIED 7250 and 7256-8256, 6 hours inside the college (selectives), and 21 hours outside the college (selectives)

7. Candidates for the Ed.D. degree must spend two consecutive semesters as full-time resident students or meet requirements for the alternate residency program.

8. Three years of successful teaching and/or administrative experience at the appropriate educational level

VII. Professional Endorsements

1. All programs designed for certification are approved by The National Council for the Accreditation of Teacher Education (NCATE).

2. Students pursuing professional endorsement only (rather than the Ed.S. degree) may, in consultation with their advisor and in lieu of the twelve semester hours required in the following: (EDAS 8000 or EDAS 8001 plus six semester hours in the collateral outside education) select alternative courses as part of their planned sixth year program.

M630 EDUCATIONAL ADMINISTRATION AND SUPERVISION (EDAS)

7000. Human, School and Community Relationships. (3). Focuses on human relations in the context of schools and community movements. Civic, governmental, and cultural organizations. School activities and their relationship to the home and the community. [0827-1]

7100. Introduction to Educational Administration. (3). An introductory treatment of educational administration, including theory/practice, scope, task areas, processes and procedures, problems/issues, and types of personnel needed in the United States. [0827-1]

7110. Elementary School Administration. (3). Focus on the major aims of the elementary school and the responsibilities of the elementary school principal. [0827-1]

7120-8120. Educational Finance. (3). Theory and practice of financing education in the United States, development of guiding principles of educational finance, trends and needs in state and federal participation in school support, and local operational finance; particular emphasis on the financing of the public schools of Tennessee. [0827-1]

7130-8130. Business Management in Education. (3). The role of business administration in public education; principles and practices of auditing, budget preparation and control, debt service, insurance, legal aspects, payroll administration, purchasing, supply management and transportation. [0827-1]

7140-8140. Educational Technology, Facility, and Resource Utilization. (3). Considers plants, sites, equipment (instructional and other), planning, financing, construction, maintenance and architectural contractual services. [0827-1]

7160-8160. Administration of Educational Personnel and Negotiations. (3). Educational personnel administration including: staff goals, policies, recruitment, induction, roles, evaluation, development, continuity of service and negotiations. [0827-1]

7170-8170. Practicum in Educational Administration and Supervision. (1-6). Designed to provide semester long practical experiences under the supervision of a professor and a practicing administrator. Students may observe and participate in the following areas: administration, supervision, school-community relations, finance, plant, and transportation. (Prospective enrollees should secure approval from the department thirty days prior to registration). [0827-5]

7171-8171. Internship in Educational Administration and Supervision. (1-6). Designed to provide long term work experiences under the supervision of a professor and/or a practicing administrator. Students may participate in the following areas: administration, supervision, school-community relations, finance, plant, and transportation. (Prospective enrollees should secure approval from the department thirty days prior to registration). [0827-5]

7172-8172. Practicum in Higher Education Administration. (1-6). Designed to provide semester long practical experiences under the supervision of a professor and a practicing administrator. Students may participate in the following areas: administration, records and admissions, student personnel services, plant planning and management, community service, and research. (Prospective enrollees should secure departmental approval thirty days prior to registration). [0827-5]

7173-8173. Internship in Higher Education Administration. (1-6). Designed to provide long term work experiences under the supervision of a professor and/or a practicing administrator. Students may participate in the following areas: administration, records and admissions, student personnel services, plant planning and management, community service, and research. (Prospective enrollees should secure departmental approval thirty days prior to registration). [0827-5]

7180-8180. Educational Law. (3). Federal and State statutes and local regulations applicable to education. Legal requirements and their implications for educational operation. Legal research methods and case law. [0827-1]

7250. Elementary School Supervision. (3). Focus on supervisory skills and concerns at the elementary school level. [0828-1]

7310. Secondary School Administration. (3). A description of modern practices in organizing and administering secondary schools. Selection, retention, assignment of staff, improvement of teaching, program of studies, records, management of buildings and grounds, pupil guidance, and public relations. [0827-1]

7350. Secondary School Supervision. (3). Theories, principles, and practices of secondary school supervision. Consideration of qualifications, selection, performance, and functional demands of supervisors. [0828-1]

7400. Leadership Exploration Seminar. (1-6). The individual student's study of his relationship to and prospects for a career in educational administration. [0827-1]

7460-8460. Response to Discrimination in Educational Institutions. (3). The role of the educational administrator in responding to discriminatory practices in educational institutions, with focus on personnel policies and practices, patterns of communications, and other areas of administrative responsibilities. [0827-1]

7500-8500. Issues in Educational Leadership. (3). Issues confronting leaders in American education and currently before the profession and the public. [0827-1]

7510-8510. Seminar in Educational Leadership. (1-6). For persons in positions of educational leadership. Problems and issues which derive from trends in our present day culture. Emphasizes the impact upon educational leadership. [0827-1]

7515-8515. Workshop in Educational Administration: — (1-3). Focuses on a variety of administrative topics, one of which will be emphasized in each workshop. Course may be repeated; however, no more than 3 hours credit may be received in one topic. Specific topics will be listed in the *Schedule of Classes* [0827-1]

†7550-8550. Workshop in Educational Supervision. — (1-3). Focuses on a variety of supervisory topics, one of which will be emphasized in each workshop. Course may be repeated; however, no more than 3 hours credit may be received in one topic. Specific topics will be listed in the *Schedule of Classes*. [0827-1]

7610-8610. Urban Educational Administration. (3). Emphasis upon administering an educational unit in the densely populated area of a city. [0827-1]

7611-8611. Community Education Administration. (3). Emphasizes organizational aspects of community education programs including: administration and supervision of personnel and citizen/community participation in formulating, implementing and evaluating community education programs. [0827-1]

7612-8612. Adult and Continuing Education Administration. (3). Organization and administration of Adult and Continuing Education including: adult remedial, vocational-technical, community, and secondary/collegiate continuing education programs. Content includes: administrative methods and materials appropriate to adult habits and needs, interpreting current legislation and research relating to adult and continuing education programs; planning, implementing and evaluating strategies. [0827-1]

7700-8700. Readings and Research Problems in Human School and Community Relationships. (1-3). [0827-8]

7710-8710. Readings and Research Problems in General Educational Administration. (1-3). [0827-8]

7712-8712. Selected Topics in Educational Administration. — (1-3). Designed to permit study of current topics in the areas of educational administration. May be repeated with a change in content and topic emphasis. See *Schedule of Classes* for exact subtitle. [0827-1]

7730-8730. Readings and Research Problems in Educational Finance and Business Management. (1-3). [0827-8]

7740-8740. Readings and Research Problems in Educational Plant and Transportation. (1-3). [0827-8]

7750-8750. Readings and Research Problems in Educational Supervision. (1-3). [0828-8]

7751-8751. Selected Topics in Educational Supervision. — (1-3). Designed to permit study of current topics in the area of educational supervision. May be repeated with a change in content and topic emphasis. See *Schedule of Classes* for exact subtitle. [0828-1]

7760-8760. Readings and Research Problems in Administration of Educational Personnel and Negotiations. (1-3). [0827-8]

7780-8780. Readings and Research Problems in Educational Law. (1-3). [0827-8]

7790-8790. Readings and Research Problems in Higher Educational Administration. (1-3). [0827-8]

7810. Politics and Power in Educational Leadership. (3). Field study of techniques and strategies for leaders in education to discover sources of community power influencing school and education policy. [0827-1]

7811-8811. Policy Implementation in Educational Administration. (3). (7711-8711). Emphasizes development and implementation of administrative policy at the local, state, and national levels in relation to forces which shape the thinking of policy making bodies. [0827-1]

†7996. Thesis. (3-6). Only students with superior scholarship are permitted to register in this course. The students must present in writing an outline describing the proposed thesis. This outline, when approved by the faculty members under whose direction the thesis is to be written, must be submitted to the Chairman of the Department of Educational Administration and Supervision for his approval. This course will involve writing the thesis and will emphasize the definition of a problem, the collection of the data, their use, and conclusions to be reached. Application for writing a thesis must be made using an approved form, after consultation with the major professor and filed with the Dean of Graduate Studies at the time of registration. [0827-6]

†8000. Education Specialist Thesis. (3-6). (See course 7996 description). [0827-6]

†8001. Education Specialist Field Study. (3-6). Individual study of a significant problem in educational administration. The study shall be closely related to the student's field of major concentration. [0827-6]

8190. Overview of Higher Education. (3). An orientation to higher education which deals in breadth with the facets of higher education vital to an understanding of the field. Designed to build a professional perspective toward higher education. [0805-1]

8191. The Community College. (3). A survey of the history and philosophy of the community college, its place and function, establishment and control, administration, curriculum, staff, supporting physical plant, student population, guidance, and public relations. [0806-1]

8192. The Organization and Structure of Higher Education. (3). Educational policies, functions, and practices in the administration of higher institutions, with emphasis upon the various types of organizational structure and services. [0805-1]

8200. The Administration of Instructional Programs and Materials. (3). Practices and the processes used by administrative and supervisory leaders who plan, organize, and coordinate the professional activities of teachers in facilitating learning. PREREQUISITE: Permission of instructor. [0827-1]

8220. The Economics of Education. (3). The broader economic implications of education in the United States. PREREQUISITE: EDAS 7120-8120. [0827-1]

8260. The Administration of Student Services. (3). Designed to acquaint the student with student services, including accounting, reporting, classifying, attendance and student adjustment problems at all levels of educational institutions. [0827-1]

8280. Governance of Education. (3). Overall patterns of governmental activities affecting education at the international, national, state and local levels. PREREQUISITE: EDAS 7180-8180. [0827-1]

8300. The School Survey. (1-6). Development of school surveys, critical examination of current educational practices, trends and programs. Field experience will be made available. PREREQUISITE: EDRS 7521 or permission of instructor. [0827-1]

8320. Higher Education Finance. (3). Fundamental considerations in the financing of institutions of higher education. Special attention given to sources and methods of securing funds, development programs, procedures for budget development and analysis, and other financial and economic aspects of higher education administration. [0827-1]

8340. Educational Facility Planning and Practicum. (3). Focuses on the work of district and state directors of school plant planning. Educational specifications; working drawings in relation to educational specifications; and current practices and literature in school plant planning. Field experience provided. PREREQUISITE: EDAS 7140-8140 and permission of instructor. [0827-1]

8360. Collective Bargaining in Education. (1-3). Analysis of bargaining in education including history, issues, resource data, proposals, table tactics, contract language, impasse procedures, roles, and career opportunities in educational negotiations. PREREQUISITE: MGMT 4220-6220 or permission of instructor. [0827-1]

8370. Educational Administration Performance Laboratory. (1-6). Laboratory experience such as gaming and simulation are provided to illustrate administrative competencies necessary in managing complex organizations, information systems, computers, applications, network planning and projection systems. [0827-1]

8380. Higher Education Law. (3). The legal principles and significant legal constraints within which institutions of higher education function with particular emphasis on structure, personnel, programs, property and finance. [0827-1]

8600. Planning, Communicating and Futures Seminar. (1-3). Leadership development in planning, communicating and futurizing for career educational leadership. [0827-1]

8800. Theories, Practices and Research in Educational Administration. (1-6). Basic theories of organization and administration, philosophical and historical foundations of theories, research and development in theory formulation using current practices as examples. PREREQUISITE: EDAS 7100 or permission of instructor. [0827-1]

†9000. Doctoral Dissertation. (3-12). [0827-7]

†Grades of S, U, or IP will be given.

FOUNDATIONS OF EDUCATION

PROFESSOR CARLTON H. BOWYER, *Chairman*

Room 404 The College of Education Building

DR. E. DEAN BUTLER, *Coordinator of Graduate Studies*

I. Graduate study in the Department of Foundations of Education is designed to (1) develop understanding of the socio-cultural influences shaping the policies, design, and conduct of formal education; (2) gain competence in dealing with the variables related to teaching and learning; and (3) encourage the development of abilities which facilitate systematic and scholarly inquiry into the structure and consequences of educational endeavors.

II. The Department of Foundations of Education offers graduate programs leading to the Master of Science, Education Specialist, and Doctor of Education degrees.

III. M.S. Degree Program

Concentrations are available in Cultural Foundations, Educational Psychology, and Research Methodology and Statistics.

A. Program Admission

Students may be admitted to the program if they have a GPA of 2.5 (on a 4 point scale) and a Miller Analogy Test score of 27 or a Graduate Record Examination score of 800. Students with grades or scores below these minimums will be reviewed by the department chairman.

B. Program Requirements

1. A minimum of 36 semester hours is required.
2. A major of 18 semester hours including 9 hours of departmental core.
3. EDRS 7521 - Introduction to Educational Research (3 hours).
4. A minimum of 6-9 semester hours of supportive work in courses outside the College of Education.
5. A minimum of 6-9 semester hours within the College of Education but outside the Foundations of Education department.

IV. Ed.S. Degree Program

Concentration areas are available in Cultural Foundations, School Psychology, and Research Methodology and Statistics.

A. Program Admission

The student must meet the general admission requirements of the Graduate School and the College of Education in order to qualify for admission to the program.

B. Program Requirements

1. A minimum of 66 semester hours of graduate work beyond the Bachelor's degree approved by the candidate's Advisory Committee.
2. A minimum of 30 semester hours in the concentration area.

The concentration area must include 6 semester hours of courses in the department but not in the area of specialization. The required research sequence of 6 semester hours may not be used to fulfill this requirement for courses outside the area of specialization.

3. 15 to 21 semester hours in collateral areas outside the College of Education.

4. 9 to 15 semester hours in collateral areas inside the College of Education but outside the Department of Foundations of Education.

5. 6 semester hours in the following research sequence: EDRS 7521 and either EDRS 7541 or EDRS 8541.

6. A minimum of 9 semester hours in courses numbered 800 or above.

V. Ed.D. Degree Program

Concentration areas are available in Cultural Foundations, Educational Psychology, Research Methodology and Statistics, and Higher Education.

A. Program Admission

The student must meet the general admission requirements of the Graduate School and the College of Education in order to qualify for admission to the program.

B. Program Requirements (Cultural Foundations and Educational Psychology concentrations)

1. A minimum of 99 semester hours of graduate work beyond the bachelor's degree approved by the candidate's Advisory Committee with a minimum of 21 semester hours in courses numbered 8000 or above.
2. A minimum of 48 semester hours in the major, to include 2 semester hours of departmental core: EDFD 8001, 9000, EDFD 8121, EDRS 6511. The required research sequence of 9 semester hours may not be used to fulfill this requirement.
3. 9 semester hours in research: EDRS 7521, 8541, and 852 or 8542.
4. 21 semester hours in collateral areas outside the College of Education.
5. 21 semester hours in collateral areas inside the College of Education but outside the Department of Foundations of Education. (9 of these hours represent the College Core requirement.)

C. Program Requirements (Research Methodology and Statistics concentration)

1. A minimum of 99 semester hours of graduate work beyond the bachelor's degree approved by the candidate's Advisory Committee with a minimum of 21 semester hours in courses numbered 8000 or above.
2. A minimum of 48 semester hours in the major, to include 2 semester hours of departmental core: EDFD 8001, 9000, EDFD 8121, EDRS 6511. The required research sequence of 9 semester hours may not be used to fulfill this requirement.
3. 9 semester hours in research: EDRS 7521, 8541, and 852 or 8542.
4. College Core: 9 semester hours of courses in cultural foundations or educational psychology.
5. 21 semester hours in collateral areas outside the College of Education.
6. 12 semester hours in collateral areas inside the College of Education but outside the Department of Foundations of Education.

D. Program Requirements (Higher Education concentration)

1. A minimum of 99 semester hours of graduate work beyond the bachelor's degree approved by the candidate's Advisory Committee with a minimum of 21 semester hours in courses numbered 8000 or above.
2. 39-63 semester hours in the major, to include 12 hours of dissertation (EDFD 9000) and 12 semester hours of higher education core: CIED 8200, EDAS 8192, GUID 8622, EDFD 8002. Students completing the higher education concentration must complete a minimum of 30 semester hours within the major department. The required research sequence of 9 semester hours may not be used to fulfill this requirement.
3. 9 semester hours in research: EDRS 7521, 8541, and 852 or 8542.
4. College Core: 6-9 semester hours of courses in cultural foundations or educational psychology.
5. 15-36 semester hours in collateral areas outside the College of Education.
6. 6-18 semester hours in collateral areas inside the College of Education but outside the Department of Foundations of Education.

Further information pertaining to advanced degrees may be obtained by contacting the chairman of the department.

M700 CULTURAL FOUNDATIONS (EDFD)

6012. History of American Education. (3). Development and growth of educational practices, institutions, and theories in the United States from the colonial period to the present. [0821-1]

6042. Survey of Educational Systems in Latin America. (3). Development of selected educational systems in Central and South America; analyses of religious, economic, and political influences on educational policies and practices. [0821-1]

6051. Anthropology and Education. (3). (ANTH 6051) The cultural transmission process with emphasis on different behavioral, cognitive, and learning styles of various ethnic groups within American society and selected third world countries, and U.S. subcultural groups within the public education system. [0821-1]

†6701. Workshop in Cultural Foundations of Education. — (1-3). Group study and analysis of a selected area indicated in the subtitle printed in the *Schedule of Classes*. [0821-1]

7001-8001. Foundations of Education. (3). Historical, philosophical and social forces influencing the policies and practice of American education. [0821-1]

7006-8006. Selected Topics in Educational Foundations. — (1-3). Study of current topics in the foundations of education.

May be repeated with a change in content and subtitle designation. [0821-1]

0008-8008. Special Problems in Cultural Foundations of Education. (1-3). Individual investigation and report of a specific problem under the direction of a faculty member. May be repeated for a maximum of 9 credits. PREREQUISITE: Permission of instructor. [0821-8]

0112-8012. History of Western Education. (3). Educational policies and practices in the Western world as influenced by sociopolitical processes and major theorists. [0821-1]

021-8021. Philosophical Foundations of American Education. (3). A critical examination of the basic principles of the major philosophy of education theories which have influenced the development of modern public education. [0821-1]

022-8022. Philosophical Analysis in Education. (3). The use of philosophical techniques of logical and linguistic analysis with problems of philosophy and theory in education; the activities of teaching; value theory and education; and knowledge, teaching, and learning. [0821-1]

031-8031. Social Foundations of Education. (3). Education as a cultural universal with emphasis on the interactions of the school and the broader socio-economic context. [0821-1]

032-8032. Education in Urban Society. (3). Sociological and cultural dimensions of urban society and education with emphasis on contemporary issues and recent policy developments. [0821-1]

033-8033. Education and the Political System. (3). Relationships between political ideas and functions in education with political dimensions of society; focus on theoretical frameworks through which the interactions of the school and political systems can be analyzed and evaluated. [0821-1]

034-8034. Field Experiences in Urban Education. (3). Participation in social agencies, community action groups, or other organizations in the inner-city of a disadvantaged area. Field work is combined with a study of the social and ethnic make-up of such communities. [0821-9]

041-8041. Survey of Educational Systems in Europe and Asia. (3). Selected educational systems in Europe and Asia with analysis of educational policies and practices in relation to philosophy, history and socio-political phenomena. [0821-1]

8000. Educational Specialist Thesis. (3-9). Individual Study of a research problem related to the concentration. [0821]

9002. Historical and Cultural Perspectives on Higher Education. (3). Historical development of higher education in the United States and other countries, and cross-cultural differences in major national higher education systems. Application of these historical and cross-cultural perspectives to a major issue or problem area facing U.S. higher education. [0821-1]

9029. The Future American College. (3). Investigation of theory and research in adult development and learning with implications for future policy reform and institutional developments in higher education. Various field experiences will be required. [0805-1]

9000. Doctoral Dissertation. (3-12). Credit may be earned over a period of several semesters. The dissertation may be an organized scientific contribution or a comprehensive analysis of theory and practice in a specific area. [0821-7]

M720 EDUCATIONAL PSYCHOLOGY (EDPS)

5122. Management of Classroom Behavior. (3). Study and application of psychological principles used by educators to cope with behavioral problems and to improve social and emotional behaviors of pupils. Laboratory or simulation activities will be used along with academic study. [0822-1]

6701. Workshop in Psychological Foundations of Education: — (1-3). Group study and analysis of selected area indicated by the title printed in the *Schedule of Classes*. [0822-1]

7106-8106. Selected Topics in Educational Psychology: — (1-3). Study of current topics in educational psychology. May be repeated with a change in content and subtitle designation. [0822-1]

7108-8108. Special Problems in Educational Psychology. (1-3). Individual investigation and report of a specific problem under the direction of a faculty member. May be repeated for a maximum of 9 credits. PREREQUISITE: Permission of instructor. [0822-8]

7111-8111. Child Psychology Applied to Education. (3). Major theories of child psychology and their implications for educational practices with the pre-school and elementary school child. [0822-1]

7112-8112. Adolescent Psychology Applied to Education. (3). Advanced academic and laboratory study of the psychological environments of adolescents; emphasis on behavioral antecedents and consequences in adolescents that relate to secondary school personnel or others who work with adolescents. [0822-1]

7121-8121. Learning Theories Applied to Education. (3). Major theories of learning, current research on learning, and implications for educational practice; application of established principles of learning to practical educational problems. Topics covered include motivation, cognition, retention, forgetting, problem-solving, and transfer as these relate to pupil and teacher personality development. [0822-1]

7127-8127. Practicum in Applied Learning in Higher Education. (3). Seminar discussion and supervised practical experience in the application of psychological and educational procedures directed toward facilitation of learning in higher education. PREREQUISITE: PSYC 7210 or EDPS 7121. [0822-5]

7132-8132. Personality Variables in Classroom Teaching. (3). Role of teacher and student personality variables as they influence the teaching/learning process. [0822-1]

7141-8141. Techniques of Mental Measurement and Education Programming. (3). Administration and interpretation of techniques of mental measurement and application to educational programming. [0822-1]

7151-8151. Adaptive Instructional Models. (3). Theoretical foundations of instructional models designed to adapt learning to individuals. Topics include programmed instruction, computer-based instruction, competency-based (PSI) models, token economy systems, peer tutoring strategies, and contemporary theoretical models pertaining to behavior modification, aptitude-treatment interactions, and adaptive instruction. PREREQUISITE: EDRS 7521. [0822-1]

7152-8152. Techniques of Systematic Instructional Development. (3). Techniques of learning problem analysis, task analysis, behavioral entry assessment, behavioral objectives, criterion performance assessment, instructional strategies, materials implementation, field implementation, revision processes, and summative evaluation. [0822-1]

7157-8157. Practicum in Application of Instructional Systems Concepts. (3). Application of instructional systems concepts in designing and developing strategies and procedures for accomplishing appropriate educational goals. [0822-5]

8129. Seminar in Problems of Classroom Learning. (3). Problems of classroom learning with special attention directed to the application of learning theories to classroom procedures. PREREQUISITE: Permission of instructor. [0822-1]

M710 RESEARCH METHODOLOGY AND STATISTICS (EDRS)

6511. Measurement and Evaluation. (3). Test construction, test statistics, and interpretations and applications of standardized test results. A maximum of 3 semester hours credit may be earned. A student may enroll in the complete course for 3 credits or in the separate modules. [0825-1]

001. TEST CONSTRUCTION. (1).

002. TEST STATISTICS. (1).

003. STANDARDIZED TEST RESULTS. (1). PREREQUISITE: EDRS 6511-002.

7506-8506. Selected Topics in Research Methodology — (1-3). Study of current topics in evaluation, research and statistical methods applicable to education. May be repeated with a change in content and subtitle designation. [0824-1]

7518-8518. Special Problems in Research Methodology. (1-3). Individual investigation and report of a specific problem under the direction of a faculty member. May be repeated for a maximum of 9 credits. PREREQUISITE: Permission of instructor. [0824-8]

7521. Introduction to Educational Research. (3). Introduction to major concepts and processes underlying educational research. Focus on knowledge necessary for critically appraising published research and preparing students as research consumers. [0824-1]

7529-8529. Seminar in Research Applications for Educators. (3). Focus on problems of logic encountered in preparing proposals and articles. Topics covered are: research principles and design, statement of research problems and hypotheses, role of literature review, design of subsequent research, and criteria for adequacy. [0825-1]

7531-8531. Computer as a Research Tool. (3). Computer applications to research processes in education and the behavioral sciences; capabilities and limitations of computers in analysis of educational data; experience in the utilization of various (statistical) library programs. PREREQUISITE: Introductory statistics and programming or permission of the instructor. [0824-3]

7541-8541. Statistical Methods Applied to Education I. (3). Utilization and interpretation of statistical methods applied to education. Topics include frequency distributions, central tendency, variability, correlation, linear regression, introduction to probability, normal distribution, interval estimation, hypothesis testing via t test and chi square and computer utilization in statistical analysis. PREREQUISITE: EDRS 7521 or permission of the instructor. [0824-1]

7551-8551. Introduction to Evaluation Systems. Examines procedures and problems in utilization of evaluation and in identifying its purposes; treats the functions and methods of evaluation especially as affected by organizational behavior and political influences. Evaluation methodology includes but is not limited to design considerations, data utilization, and concepts and methods of needs assessment. [0825-1]

7552-8552. Advanced Topics in Evaluation Systems. (3). Extends the content offered in EDRS 7551-8551 by in-depth coverage to the topics of social contexts of evaluation, evaluation as management tool, PERT and similar optimizing and planning techniques, systems theory, and utilization of evaluation results. PREREQUISITE: EDRS 7551-8551. [0825-1]

8519. Seminar in Education Measurement. (3). Systematic investigation of advanced topics in the field of educational measurement. A prior course in educational statistics is recommended. [0825-1]

8522. Advanced Education Research. (3). Philosophical aspects of the scientific method in education; functions of paradigms, theories and models in inquiry; theory development and validation; major types of non-experimental inquiry appropriate to the study of educational phenomena. PREREQUISITE: EDRS 7521 and 7541-8541 or permission of instructor. [0824-1]

8542. Statistical Methods Applied to Education II. (3). Includes one-way and two-way analysis of variance, a priori and post hoc tests of significance, and an introduction to multiple linear regression. Emphasis is placed on student acquisition of practical intermediate univariate analytic and interpretative skills. PREREQUISITE: EDRS 7541-8541 or permission of instructor. [0824-1]

8543. Research Design and Analysis. (3). Includes validity of research designs, complex analysis of variance, and analysis of covariance; emphasis is on practical advanced univariate and analytic and interpretative skills. PREREQUISITE: EDRS 8542 or permission of instructor. [0824-1]

8549. Seminar in Educational Statistics. (3). Systematic investigation of current or advanced topics in the field of educational statistics. PREREQUISITE: An advanced statistical methods course and permission of instructor. [0824-1]

†Grades of S, U, or IP will be given.

HEALTH, PHYSICAL EDUCATION, AND RECREATION

PROFESSOR MELVIN A. HUMPHREYS
Chairman

Room 204 Field House

DR. MICHAEL H. HAMRICK,
Coordinator of Graduate Studies
(Health)

DR. DARRELL CRASE,
Coordinator of Graduate Studies
(Physical Education)

DR. M. A. HUMPHREYS,
Coordinator of Graduate Studies
(Recreation)

I. The Department of Health, Physical Education and Recreation offers graduate programs leading to the Master of Education degree and the Master of Science degree with a major in Health, Physical Education and Recreation. Concentrations are available in Health, Physical Education and Recreation.

II. M.Ed. Degree Program (School Health)

A. Program Prerequisites

1. Minimum state teacher certification requirements must be met prior to admission to graduate program.

2. Undergraduate major in health and physical education or health education of 27 semester hours.

3. Meet the university's requirements for admission to graduate school.

4. If, after evaluation of student's transcript, the faculty feels that there are academic deficiencies in courses, he may be required to take stipulated undergraduate courses.

B. Program Requirements

1. A total of 30 semester hours for the student who elects to write an acceptable thesis.

2. A total of 33 semester hours if a thesis is not submitted.

a. Eighteen hours in professional health courses as follows: HLTH 7162, 7172, 7802; one of the following: HLTH 6602, 6702, 7142; and electives (6 semester hours).

b. Three semester hours from Educational Foundations (EDFD) or Educational Psychology (EDPS).

c. Three semester hours from Research Methodology and Statistics (EDRS) as follows: EDRS 7521.

d. Nine semester hours in a collateral area outside College of Education.

e. The successful completion of an oral and/or written examination.

III. M.Ed. Degree Program (Physical Education)

A. Program Prerequisites

1. Minimum state teacher certification requirements in Physical Education must be met prior to admission to graduate program.

2. Undergraduate major in health and physical education or physical education of 27 semester hours.

3. Meet the university's requirements for admission to graduate school.

4. If, after evaluation of student's transcript, the faculty feels that there are academic deficiencies in courses, he may be required to take stipulated undergraduate courses.

B. Program Requirements

1. A total of 30 semester hours for the student who elects to write an acceptable thesis.

2. A total of 33 semester hours if a thesis is not submitted.

a. Eighteen hours in professional physical education courses including: PHED 7103, 7123, 7163, 7403 and electives (6 semester hours).

b. Three semester hours from Educational Foundations (EDFD), Educational Psychology (EDPS), or General Curriculum (CIED 7002).

c. Three semester hours from Research Methodology and Statistics (EDRS) as follows: EDRS 7521.

d. Nine semester hours in a collateral area outside College of Education.

e. Successful completion of an oral and/or written examination.

f. Demonstrated competence in exercise physiology.

IV. M.S. Degree Program (Community Health)*

A. Program Prerequisites

1. Prior to admission to non-certified program the student must complete at least 6 semester hours in upper division undergraduate or graduate courses in psychological, historical, social or philosophical foundations.

2. Meet the university's requirements for admission to graduate school.

3. If after evaluation of student's transcript, the faculty feels there are academic deficiencies in courses, he may be required to take stipulated undergraduate courses.

B. Program Requirements

1. A total of 36 semester hours is required.

2. Community Health Courses — 18 semester hours.

a. Core — 9 semester hours.

HLTH 6602 — Organization and Administration in Health (3).

HLTH 6702 — Trends and Problems in Public Health (3).

HLTH 7712 — Epidemiology (3).

COLLEGE OF EDUCATION Health, Physical Education & Recreation

b. Supporting Area: School Health — 3 semester hours (one of the following).
HLTH 7142 — Seminar in Health (3).
HLTH 7162 — Curriculum Construction in Health (3).
HLTH 7172 — School Health Education (3).
HLTH 7802 — Construction and Analysis of Health Instruments (3).

c. Health Electives — 6 semester hours.

3. College of Education Core — 3 semester hours.

EDRS 7521 — Introduction to Educational Research (3).

4. Selectives — 15 semester hours.

The selectives must be taken inside and outside the College of Education, depending on the undergraduate background and previous experience.

a. A minimum of 6 semester hours of selective courses must be taken inside the College of Education, but outside the major department.

b. A minimum of 6 semester hours of selective courses must be taken outside the College of Education.

c. Selectives — 3 semester hours. A maximum of 3 semester hours of selectives may be taken inside/outside the College of Education.

5. The successful completion of an oral or written examination.

V. M.S. Degree Program (Recreation)*

A. Program Prerequisites

1. Prior to admission to non-certified program the student must complete at least 6 semester hours in upper division undergraduate or graduate courses in psychological, historical, social or philosophical foundations.

2. Meet the university's requirements for admission to graduate school.

3. If, after evaluation of student's transcript the faculty feels that there are academic deficiencies in courses, he may be required to take stipulated undergraduate courses.

B. Program Requirements

1. A total of 36 semester hours is required.

2. Recreation (and Parks) Courses — 18 semester hours.

a. Recreation Core — 6 semester hours.

RECR 7305 — Philosophy of Recreation and Leisure (3).

RECR 7405 — Program Planning (3).

b. Recreation Emphasis Electives — 12 semester hours.

Recreation (and Parks) courses selected by student and advisor according to student's interests, needs and area of emphasis.

The following areas of emphasis may be pursued:

- (a) Public Recreation and Parks
- (b) Outdoor Recreation and Camping
- (c) Therapeutic Recreation
- (d) Recreation Program Administration
- (e) Commercial Recreation and Tourism
- (f) Professional Recreation Education

3. College of Education Core — 3 semester hours.

EDRS 7521 — Introduction to Educational Research (3).

4. Selectives — 15 semester hours.

The selectives must be taken inside and outside the College of Education, depending on the undergraduate background, previous experience and area of recreation (and park) emphasis. (See above).

A minimum of 6 semester hours of selective courses must be taken inside the College of Education, but outside the major department.

A minimum of 6 semester hours of selective courses must be taken outside the College of Education.

A maximum of 3 semester hours of selectives may be taken inside/outside the College of Education.

5. The successful completion of an oral or written examination.

*NCATE does not accredit programs for non-certified personnel.

M740 HEALTH (HLTH)

†6202.20. **Workshops in Health.** Special study of selected phases of health education through group study. Designed for indepth study of areas of interest and need for persons in health education and related fields. [0837-1]

†6202. **Workshop in School and Community Health.** (1-3).

†6203. **Workshop in Death and Dying.** (1-3).

†6204. **Workshop in Sexuality Education.** (1-3).

†6205. **Workshop in Drug Education.** (1-3).

†6206. **Workshop in Environmental Health.** (1-3).

6302. **Observation in Community Health Agencies.** (3). Introduction to the purposes, objectives, functions, services and programs of community health agencies with opportunities to visit and tour public and private agencies and interview various representatives. [0837-1]

6602. **Organization and Administration in Public Health.** (3). Basic functions, principles and procedures of organization and administration as applied to health. Emphasis is placed on relationship and responsibilities of personnel in planning, promoting, and improving and evaluating the total health activities in the family-centered health services. [0837-1]

6702. **Trends and Problems in Public Health.** (3). Historical development and current trends in community health; the various needs and demands for medical care; the contributions of the professional personnel in providing for total health services and education. [0837-1]

7122. **Current Readings in Health.** (3). Directed readings in the area of health. Materials selected to strengthen areas of study. [0837-1]

7142. **Seminar in Health.** (1-3). Special study of selected current problems in health. May be repeated for a maximum of 9 credits. [0837-1]

7152. **Special Problems in Health Education.** (1-3). Independent study and/or research project on selected health problems or issues. PREREQUISITE: Consent of instructor. [0837-8]

7162. **Curriculum Construction in Health.** (3). Factors involved in attaining a sound curriculum, to use the conceptual approach in curriculum development, to recognize curriculum problems, and to develop criteria for evaluating programs. [0837-1]

7172. **School Health Education.** (3). History, principles, problems and trends of School Health Education. [0837-1]

7182. **Health Aspects of Gerontology.** (3). Current issues and trends in gerontology. Emphasis on the effects and implications of these trends on the health and quality of life of the aging. [0837-1]

7192-8192. **Occupational Health and Safety.** (3). Occupational health and safety theory and practice related to overall improvement of community health and safety. [0837-1]

7702. **Sociological Health Issues.** (3). Examination of current health issues and problems with emphasis on roles of parents, teachers, administrators and community personnel. [0837-1]

7712. **Epidemiology.** (3). Introduction to selected diseases of special concern in public health practice with emphasis on epidemiologic models and methods. [0837-1]

7802. **Construction and Analysis of Health Instruments.** (3). The principles of construction, selection, and analysis of cognitive and affective instruments in the field of health education will be presented. [0837-1]

7902. **Selected Topics in Health:** — (1-3). Current topics in the area of health. May be repeated with a change in topic and content emphasis. See departmental listing in *Schedule of Classes* for exact subtitle. [0837-1]

†7996. **Thesis.** (3-6). Application for writing a thesis must be filled out on an approved form after consultation with the major professor and filed with the Dean of Graduate Studies. [0837-6]

M745 SAFETY EDUCATION (SAFE)

†6207. **Workshop in Driver and Traffic Safety Education.** (1-3). For both in-service and prospective teachers of grades 7-12 in the improvement of the teaching-learning process as applied to driver and traffic safety education. Attention is given to common elements of teaching methodology, utilization of appropriate driver and traffic safety education materials and resources and evaluative criteria. Students who have previously earned credit in SCED 4707-6707 Workshop in Driver and Traffic Safety Education may not repeat SAFE 6207 and earn credit. [0836-1]

6335. **Driver and Traffic Safety Education I.** (3). Basic knowledge and skills to deal with the problems of vehicular traffic. Defensive driving and driver improvement techniques will be stressed. Students desiring teacher certification must enroll concurrently in SAFE 6336 for one semester hour in order to complete laboratory requirements. [0836-1]

6336. **Driver and Traffic Safety Education — Lab I.** (1). Laboratory experiences dealing with classroom and in-car instruction. Required for all students desiring certification in driver education. To be taken concurrently with SAFE 6335. Two hours each week to be arranged individually. [0836-1]

6337. **Driver and Traffic Safety Education II.** (3). Advanced driver and traffic safety educational activities. Included is a study of current research in accident causation and prevention. Students desiring teacher certification must enroll concurrently in SAFE 6338 for one semester hour in order to complete laboratory requirements. Students who have previously earned credit in SCED 6337 may not repeat SAFE 6337 and earn credit. [0836-1]

6338. **Driver and Traffic Safety Education — Lab II.** (1). Laboratory experiences dealing with classroom, in-car multi-vehicle range and simulation instruction. To be taken concurrently with SAFE 6337. Two hours each week to be arranged individually. [0836-1]

7902. **Selected Topics in Safety Education:** — (1-3). Current topics in the area of Safety Education. May be repeated with a change in topic and content emphasis. See departmental listing in *Schedule of Classes* for topic. [0836-1]

M750 PHYSICAL EDUCATION (PHED)

†6103.20. **Workshops in Physical Education.** Special study of selected phases of physical education through group study. Designed for indepth study in areas of interest and need for physical education teachers and administrators. [0835-1]

†6103. **Workshop in Program Planning.** (1-3). [0835-1]

7103. **Foundations of Physical Education.** (3). Interpretation of the objectives of physical education as related to scientific facts contained within the biological, psychological, and sociological fields of study. [0835-1]

7113. **Curriculum Construction in Physical Education.** (3). Entire program of instruction in physical education including methods of instruction, standards of achievement, evaluation of results, and the preparation of a course of study. [0835-1]

7123. **Mechanical Analysis of Motor Skills.** (3). Experiences which will enhance the understanding and practical application of the laws of mechanical physics to the fundamental techniques utilized in the performance of physical activities. [0835-1]

7133. **Current Readings in Physical Education.** (3). Directed readings in the area of physical education. Materials selected to strengthen areas of study. [0835-8]

7143. **Seminar in Physical Education.** (1-3). Special study of selected current problems in physical education and sport. May be repeated for maximum of 9 credits. [0835-1]

7153. **Special Problems in Physical Education.** (1-3). Independent study and/or research project on selected physical education and/or sport problems and issues. PREREQUISITE: Consent of instructor. [0835-8]

7163. **Motor Learning.** (3). Investigation of research as relates specifically to the acquisition of motor skills. Emphasis placed upon such variables affecting skill acquisition as: motivation; distribution, length and methods of practice; feedback mechanisms; and the retention and transfer of skills. [0835-1]

7173. **Sport in Contemporary Society.** (3). Nature and function of sport and related phenomena in contemporary American settings within a sociocultural context. Sport-related issues pertaining to racial minorities, politics, status, consumerism, sex groups, aggression and financial matters are examined. [0835-1]

7183. **Physical Fitness and Health.** (3). Focuses on research pertaining to the relationship of physical exercise to the cardiovascular system, cardiovascular disease, longevity, weight control and relaxation. Physical work capacity, percent body fat, flexibility and other factors are measured. [0835-1]

7403. **Measurement and Evaluation in Physical Education.** (3). Includes selection, application and evaluation of certain tests appropriate to physical education. [0835-1]

7603. **The Administration of Athletics.** (3). Representative athletic administrative procedures for colleges, public school systems, and municipal athletic leagues; fiscal procedures and business management. [0835-1]

7903. **Selected Topics in Physical Education and Sport.** — (1-3). Designed to allow for study of current topics in the area of physical education and sport. May be repeated with a change in topics and content emphasis. See departmental listing in *Schedule of Classes* for topic. [0835-1]

†7996. **Thesis.** (3-6). Application for writing a thesis must be filled out on an approved form after consultation with the major professor and filed with the Dean of Graduate Studies. [0835-6]

M760 RECREATION (RECR)

6205. **Clinical Training in Recreation Therapy.** (6). Principles and methods of therapeutic recreation in a clinical setting. PREREQUISITE: Consent of instructor. [2103-8]

6405. **Organization and Administration of Recreation.** (3). Understanding community organization, its philosophy, foundation and principles. Understanding selected administrative practices that relate to successful recreational organization and administration. [2103-1]

†6705. **Workshop in Recreation and Parks.** (1-6). Special study of selected phases of recreation, parks or leisure studies. Designed for indepth study of areas of interest and need for persons in recreation and parks or related fields. [2103-1]

7135. **Current Readings in Recreation.** (3). Directed readings in the area of recreation, parks or leisure studies. Materials selected to strengthen areas of study. [2103-8]

7145. **Seminar in Recreation.** (1-3). Special study of selected current problems in recreation, parks or leisure studies. May be repeated for maximum of 9 credits. [2103-1]

7155. **Special Problems in Recreation.** (1-3). Independent study and/or research on selected recreation, park or leisure studies problems and issues. PREREQUISITE: Consent of instructor. [2103-8]

7305. **Philosophy of Leisure and Recreation.** (3). A study of philosophical foundations for recreation and parks in a dynamic society and in an age of leisure. [2103-1]

7405. **Program Planning in Recreation.** (3). Study of needs, interests, and problems of people with specific reference to a study of social forces affecting recreational planning and programming. Development of an understanding of the principles of program planning, development, and management, including organization, direction, and supervision.

7415. **Recreation in Special Settings.** (2). Course content focus on varied current problem settings (i.e., urban, inner city, rural and industrial recreation). [2103-1]

7505. **Park Administration and Supervision.** (3). Administrative, management, and operational principles, techniques and procedures related to park areas, facilities and personnel. [2103-1]

†7605. **Supervised Practicum in Recreation.** (3-9). Field experiences providing an opportunity for practical application of classroom theory. A range between 140 and 420 clock hours of professional field work in selected recreational settings according to student's particular area of emphasis. No more than semester hours may apply to a 30 or 33 semester hour degree program. If nine hours are earned, the student must present not less than 36 hours for a non-thesis degree. [2103-5]

7905. **Selected Topics in Recreation, Parks or Leisure Study.** — (1-3). Designed to allow for study of current topics in area of recreation, parks or leisure studies. May be repeated with a change in topics and content emphasis. See departmental listing in *Schedule of Classes* for topic. [2103-1]

†7996. **Thesis.** (3-6). Application for writing a thesis must be filled out on an approved form after consultation with the major professor and filed with the Dean of Graduate Studies. [2103-6]

†Grades of S, U, or IP will be given.

HIGHER EDUCATION

PROFESSOR ARTHUR W. CHICKERING
*Director, Center for the Study
of Higher Education*
Room 406
The College of Education Building

The Higher Education major is designed to prepare generalists in higher education who do not have a need to concentrate their preparation in one of the departmental areas of specialization. The program includes flexibility and allowance for individualized planning based on prior graduate level knowledge and competence, the student's professional purposes, and faculty standards concerning the depth, breadth, and complexity appropriate for doctoral studies.

I. The College of Education offers a graduate program leading to the Doctor of Education degree with a major in Higher Education. The Higher Education major is a college major cooperatively supported through existing departments and the Center for the Study of Higher Education. It is administered through the Office of the Dean by the Center for the Study of Higher Education, and degrees are awarded for this major through the College rather than through a department.

II. Ed.D. Degree Program**A. Program Admission**

Meet the general admission requirements of the Graduate School and of the College of Education:

B. Program Requirements

A minimum total of 99 semester hours of graduate credit beyond the bachelor's degree, with a minimum of 21 hours selected from courses numbered 8000 and above.

2. 39-63 semester hours in the major, including:

1. Higher Education Core (24 hours): CIED 8200, 8201; EDAS 192, 8320; EDFD 8002, 8029; GUID 8613, 8622

2. Dissertation (12 hours)

3. Selectives supportive of the major (3-27 hours)

4. College Core (6-9 hours): in the cultural/psychological foundations of education

5. Research (9 hours): EDRS 7521, 8541, 8522 or 8542

6. 18 hours of supportive collateral work taken inside the College of Education

7. 15-36 hours of supportive collateral work taken outside the College of Education

8. Completion of the University and College residency requirements

9. Two years of prior teaching and/or administrative experience, or equally appropriate experience

10. No student will be approved for the Higher Education major unless his or her educational needs deviate from current requirements of departmental majors with higher education concentrations by more than 18 credit hours.

11. To insure that the program retains its interdisciplinary focus, no student will be permitted to apply more than 21 hours in any one field toward fulfillment of the degree requirements. Students should consult with their major advisor regarding these limitations.

12. For information on departmental concentrations in higher education, see programs listed under the departments of Counseling and Personnel Services, Curriculum and Instruction, Educational Administration and Supervision, and Foundations of Education.

HOME ECONOMICS

PROFESSOR MARQUITA L. IRLAND
Chairman
Room 404 Manning Hall

The Home Economics department offers course work primarily designed to meet the teaching endorsement requirement for a degree of Master of Education in Secondary Education and vocational teaching endorsements in Occupational Home Economics. Students pursuing a degree in this area must hold secondary school certification in Home Economics.

M770 HOME ECONOMICS (HMEC)

01. **Nursery School Curriculum.** (3). Application of child development principles to program planning; infancy through four years of age. [0823-1]

04. **Furnishings Problems and Presentations.** (3). Problems in planning, coordinating and purchasing of home furnishings. One lecture, three laboratory hours per week. PREREQUISITE: HMEC 3104. [1302-1]

05. **Trade Construction of Clothing.** (3). Concerned with clothing construction based upon sound practical adapted methods and techniques, in logical sequence, in the construction of most elementary garments. PREREQUISITE: HMEC 205. [1303-1]

05. **Textiles.** (3). Selection, use and care of textiles related to properties of fibers, yarn structures, fabric construction, and finishes. Morphology and chemistry of fibers, finishes, dyes, fabric maintenance and procedure involved in fiber, yarn, and fabric identification. [1303-1]

02. **Quantity Cookery and Purchasing.** (3). Principles of procuring, storing, producing and serving foods in volume.

Planned work experiences in selected quantity food operations. PREREQUISITES: HMEC 3302, 3602. [1307-1]

6505. **Tailoring.** (3). Selection and construction of tailored wool garments, using various tailoring techniques. PREREQUISITES: HMEC 1105 and 2205. [1303-1]

6602. **Community Nutrition I.** (3). Nutritional problems and practices of various ethnic, age and socio-economic groups; study of the community and agencies concerned with meeting these needs. PREREQUISITE: HMEC 2202 or permission of instructor. [1306-1]

6702. **Practicum in Community Nutrition.** (3). Observations and participation in nutrition education programs of local and state agencies. PREREQUISITE: HMEC 6602 or permission of instructor. [1306-5]

6900. **Home Economics Study Tour.** (1-3). On-the-scene knowledge about specific academic areas of specialization within Home Economics. PREREQUISITE: Permission of instructor. May be repeated with 3 hours maximum credit. [1301-9]

7100. **Implications of Research in Home Economics.** (3). Focus on current research and specific research techniques in the field of Home Economics. PREREQUISITE: EDRS 7521. [1301-1]

7101. **Master's Seminar in Home Economics.** (1-3). Seminar designed to offer continuing personal/professional development to the Home Economist. To be taken early in the master's program during two consecutive semesters for 1 and 2 credits respectively. [1201-1]

7103. **Consumer Education in Secondary School Home Economics Curriculum.** (3). Philosophy, design and techniques for incorporating consumer education in the secondary and occupational emphasis programs. Special consideration given to education for the culturally deprived, handicapped, aging, and working with individual families. [1304-1]

7200. **Selected Topics in Home Economics: —** (1-3). Current topics in the areas of home economics. May be repeated with a change in content and topic emphasis. See *Schedule of Classes* for topic. [1301-1]

7201. **Marriage and Family Relations.** (3). Consideration of interpersonal relations in the family, for advanced study of the growing body of scientific knowledge concerning marriage, the experiences which precede it and the adjustments and challenges growing out of it. Special attention given to husband-wife, parent-child and sibling relationships and to stages in the family life cycle. [1305-1]

7300. **Independent Study in Home Economics.** (1-3). Opportunity for creative, directed, independent study in a specific area of Home Economics. Available to provide breadth and/or depth to the student's program of study. PREREQUISITE: Consent of instructor. [1301-8]

7301. **Seminar in Child Development.** (3). Review, interpretation and evaluation of current literature and research in defined areas of child development; implications of research findings for teaching, counseling, and/or research in child development. [1305-1]

†7311-19. **Internship in Occupational Home Economics.** (3). Materials, methods, and coordinating of work experiences for occupational Home Economics including supervised on-the-job experience in a selected occupational area for the teacher. PREREQUISITES: Vocational Certification and teaching experience.

†7311. **Child Care Services.** (3). [1305-5]

†7312. **Food Service.** (3). [1307-5]

†7315. **Clothing Services.** (3). [1303-5]

7383. **Instructional Development in Home Economics.** (3). Current information, based on research and scholarly investigation, in specific areas of study encompassed in the secondary Home Economics curriculum; discussion and demonstration of effective teaching and evaluating techniques. [1301-1]

7393. **Seminar in Occupational Home Economics.** (1-3). Consideration of the philosophy, curriculum, operation, and evaluation of Occupational Home Economics programs, with scope and direction based on the 1963 and 1968 Federal Vocational Education Legislative Acts. [1301-1]

†7400. **Workshop in Home Economics.** (3). Designed to respond to needs and interests of student in Home Economics. Specific titles of workshops will vary. [1301-1]

7405. **Clothing Behavior Patterns.** (3). Concerned with the application of basic concepts from cultural anthropology, sociology, and psychology to the study of clothing through surveys of pertinent research literature, selected references and periodicals. [1303-1]

7505. **Selection and Use of Textiles for Interiors.** (3). Guides in the selection, use and care of textiles for household interiors. PREREQUISITE: HMEC 4405 or 6405. [1303-1]

7704. **Seminar in Housing.** (3). Research oriented analysis of history, current trends, developments and problems concerned with socio-economic aspects of American housing. [1302-1]

7804. **Seminar in Home Furnishings.** (3). Research oriented analysis of the history, current trends, problems and developments concerned with the socio-economic aspects of home furnishings. [1302-1]

†7904. **Practicum: Housing/Home Furnishing.** (1-3). Provides an individualized work experience in either an approved Home Furnishings Merchandising business establishment or in Housing related government or organization programs. [1302-5]

LIBRARY SCIENCE

PROFESSOR EVELYN GEER CLEMENT,
Chairman and Coordinator of Graduate Studies
Room 101, Brister Library

I. The Department of Library Science offers graduate programs leading to the Master of Education degree and the Master of Science degree with a major in Library Science. General requirements of the Graduate School apply. In addition, a reading knowledge of at least one foreign language is highly desirable.

II. M.Ed. Degree Program

Students holding elementary or secondary school teacher certification will complete the requirements for state school library certification concurrently with the requirements for the M.Ed. degree.

A. Program Prerequisites

LIBS 4131, LIBS 4232, and LIBS 4401

B. Program Requirements

1. 6 semester hours Education, EDRS 7521 and CIED 7071

2. 21 semester hours Library Science, including LIBS 6111, LIBS 6121, and LIBS 6331

3. 9 semester hours in a collateral area outside the College of Education; courses should be supportive to the major and taken as a meaningful sequence within a single department or closely related departments subject to approval by the student's advisor.

4. Pass a written and/or oral comprehensive examination administered by the department

III. M.S. Degree Program

Students planning careers in academic, public, or special libraries, or who have no need to acquire library certification will complete the requirements for the M.S. degree.

A. Program Prerequisites

LIBS 4131, LIBS 4232, and LIBS 4401

B. Program Requirements

1. Major: 18 hours in Library Science

2. EDRS 7521

3. Selectives: 15 hours to be taken outside and inside the College of Education; courses must appropriately support the student's total program and must be approved by the student's advisor.

4. Pass a written and/or oral examination administered by the department.

M780 LIBRARY SCIENCE (LIBS)

6111. **Library Materials for Children.** (3). Evaluation and selection of books and related library materials for the leisure interests and curriculum needs of children through elementary school; extensive reading, introduction to selection criteria, bibliographic aids, authors and illustrators, and types of literature and information books. [1601-1]

6121. **Library Materials for Young People and Adults.** (3). Evaluation and selection of books and related library materials for the leisure interests and curriculum needs of young people and adults from junior high school up; extensive reading, introduction to selection criteria, bibliographic aids, authors and illustrators, and types of literature and information books. [1601-1]

6131. **Introduction to Bibliography.** (3). Theory and purpose of bibliography as a form of access to information, with emphasis on general reference sources; introduces principles, practices, and methods of reference service. [1601-1]

6232. **Cataloging and Classification.** (3). Introduction to the principles and techniques of the cataloging and classification of books and other library materials. [1601-1]

6331. **School Library Administration.** (3). Organization and administration of elementary and secondary school libraries, including standards, evaluation, facilities, equipment, support, student assistants, and the relationship to the instructional and guidance programs of the school. [1601-1]

6401. **Foundations of Librarianship.** (3). An introduction to librarianship as a profession and the library as an institution in the cultural and political setting; influence of social issues, societal needs, professional organizations, and federal legislation on the goals, ethics, organization, programs, and problems of libraries and librarians. [1601-1]

7010. **History of Books and Libraries.** (3). Historical development of libraries from the earliest times to the present, including the changing role of libraries as disseminators of recorded knowledge and the nature of library collections. [1601-1]

7011. **Library Management and Organization.** (3). Basic management functions, including theory, practice, and research and their applications in the administration of various types of libraries. [1601-1]

7201. **Nonprint Media in the Library.** (3). Principles and techniques of the cataloging and classification of nonprint media in libraries; the application of theory, practice, and research findings in this field. [1601-1]

7202. **Problems in Cataloging and Classification.** (3). Continues LIBS 6232. Theory of cataloging and classification, including organization of special forms of materials in various kinds of collections, using Library of Congress and other classification systems. PREREQUISITES: LIBS 4232 and 7201. [1601-1]

7301. **Government Documents.** (3). The nature and scope of American government publications, their organization and use, and methods of production and distribution. [1601-1]

7401. **Academic Libraries.** (3). Historical development, present status, and future prospects of libraries in institutions of higher

education, including organization, management, funding, collection development, and services. [1601-1]

7402. Public Libraries. (3). Historical development of public libraries and library systems, their present status and future prospects, including organization, management, funding, collection development, and services. [1601-1]

7501. Bibliography of the Social Sciences. (3). Introduction to the nature, scope, and distinguishing characteristics of the literature of the several disciplines comprising the social sciences, with emphasis on bibliographic searching and the use of information sources in these fields. [1601-1]

7502. Bibliography of Science and Technology. (3). Introduction to the nature, scope, and distinguishing characteristics of the literature of the several disciplines comprising science and technology, with emphasis on bibliographic searching and the use of information sources in these fields. [1601-1]

7503. Bibliography of the Humanities. (3). Introduction to the nature, scope, and distinguishing characteristics of the literature of the several disciplines comprising the humanities, with emphasis on bibliographic searching and the use of information sources in these fields. [1601-1]

7601. Introduction to Information Science. (3). Introduction to the methods, techniques, terminology, and equipment for automated storage and retrieval of information in libraries. [1601-1]

7701. Selection of Library Materials. (3). The philosophy and practice of building the library collection, the use of bibliographic aids, and the principles of selection and evaluation of library materials for adults and young people in all types of libraries. [1601-1]

†7801. Library Practicum. (1-3). Supervised practice in a public, academic, or special library. Requires one month prior notice of intent and approval of department chairman. [1601-5]

7991. Special Problems in Librarianship. (1-3). Independent investigation and report of a research problem or directed readings in a selected area of librarianship under the direction of a faculty member. May be repeated with a change in content for a total of four hours. PREREQUISITE: 6 graduate hours in LIBS. [1601-8]

7992. Selected Topics in Librarianship: — (1-3). Designed for in-service training and continuing education of professional librarians in all types of libraries. Content will change as indicated by trends and problems in the field and the expressed needs of working librarians. PREREQUISITE: Library experience and consent of instructor. [1601-1]

†Grades of S, U, or IP will be given.

SPECIAL EDUCATION AND REHABILITATION

PROFESSOR JOHN W. SCHIFANI
Chairman

Room 101A, Special Education Building

DR. ROBERT M. ANDERSON,
Coordinator of Graduate Studies

I. The Department of Special Education and Rehabilitation offers the Master of Education degree with a major in Special Education and Rehabilitation and concentrations in Educationally Handicapping Conditions, Pre-School Education of Exceptional Children, and Multihandicapped; the Master of Science degree with a major in Special Education and Rehabilitation and concentrations in Rehabilitation Counseling and General. Degree programs leading to the Education Specialist and Doctor of Education are also available. All programs designed for certification are approved by the National Council for the Accreditation of Teacher Education (NCATE).

II. M.Ed. Degree Program

A. Program Prerequisites

1. Teacher certification
2. Coursework and/or competency in (a) teaching of reading, (b) teaching of arithmetic, (c) measurement and evaluation of exceptional learners, (d) survey of exceptional learners

B. Program Requirements

1. EDRS 7521-Introduction to Educational Research.
2. Three hours in Educational Psychology, Cultural Foundations or CIED 7002.
3. Collateral Area Electives (Outside College of Education). To be determined with advisor. Nine (9) semester hours.
4. Minimum completion of 33 semester hours.
5. Written comprehensive examination or thesis.
6. Two years of teaching experience or its equivalent (to be determined by the Department Chairman) before the degree is awarded.

III. M.S. Degree Program

A. Rehabilitation Counseling

1. Program Prerequisites

Six semester hours in upper division or graduate courses in appropriate areas supportive to the major.

2. Program Requirements

- a. EDRS 7521 — Introduction to Educational Research
- b. A minimum of 18 semester hours in the major
- c. Collateral Areas — 12 semester hours, 6 hours must be taken in supportive areas outside the College of Education and 6 hours must be taken within the College of Education but outside the major department with GUID 7581 required.

d. Completion of 36 to 48 semester hours

e. Written comprehensive examination or thesis.

B. General

1. Program Requirements

- a. EDRS 7521 — Introduction to Educational Research
- b. Major area — 18 to 21 semester hours
- c. Collateral area — 12 to 15 semester hours

(1) Outside College of Education — 6 to 9 semester hours selected in consultation with academic advisor from supportive areas. Typical areas would be Psychology, Sociology, Criminal Justice, Management, and Audiology and Speech Pathology.

(2) Inside College of Education — 6 to 9 semester hours selected in consultation with academic advisor from supportive areas. Typical areas would be Administration and Supervision, Health, Guidance, Home Economics, and Recreation.

2. Written comprehensive examination or thesis.

IV. Ed.S. Degree Program

A. Program Prerequisites

1. Master's degree in related area.
2. Interview with department representatives of the Advanced Graduate Admissions Committee.
3. Completion of College of Education requirements for admission.

B. Program Requirements

1. 30 semester hours in the major concentration.
2. 6 semester hours in Educational Psychology and/or Cultural Foundations.
3. 9 semester hours in the College of Education outside the major department.
4. a research core of 6 semester hours (EDRS 7521, 8541) required.
5. 15 semester hours in the collateral area(s) outside the College of Education.

Minimum total: 66 semester hours of graduate credit with a minimum of 9 semester hours selected from courses numbered 8000 or above.

V. Ed.D. Degree Program

A. Program Prerequisites

1. Master's degree in related area.
2. Interview with department representatives of the Advanced Graduate Admissions Committee.
3. Completion of College of Education requirements for admission.

B. Program Requirements

1. 48 semester hours in the major concentration.
2. 9 semester hours in Educational Psychology and/or Cultural Foundations.
3. 12 semester hours in the College of Education outside the major department.
4. a research core of 9 semester hours (EDRS 7521, 8541, and 8522 or 8542).
5. 21 semester hours in the collateral area(s) outside the College of Education.

Minimum total: 99 semester hours of graduate credit with a minimum of 21 hours selected from courses numbered 8000 or above.

Additional information pertaining to specific course requirements in the major and collateral areas may be secured from the Chairman of the Department of Special Education and Rehabilitation.

M790 SPECIAL EDUCATION AND REHABILITATION (SPER)

†6801. **Workshop in Special Education and Rehabilitation. (1-9).** For the professional in fields of special education and rehabilitation. Intensive study of current methodologies, research, issues and trends in various areas of exceptionality and disability. See *Schedule of Classes* for specific topic and title. May be repeated when topic and content vary. [0808-1]

*7000. **Psycho-Educational Problems of Exceptional Children and Adults. (3).** Study of the relevant research dealing with the physical, mental, emotional, and social traits of all types of exceptional children and adults. Consideration of major current problems and practices in the development of various programs. [0808-1]

*Not required if equivalent courses taken at the undergraduate levels. (Substitutions must be made by the adviser).

7001. **Tests and Measurements for Exceptional Children and Adults. (3).** Emphasis on the development of an understanding of psychological and educational tests. Practice provided in test administration, with emphasis on diagnosis and problems encountered in children and adults who are auditorily, orthopedically, visually, mentally, emotionally, and speech handicapped. PREREQUISITE: SPER 7000. [0808-1]

7002. **Independent Study in Special Education. (1-6).** Opportunity for self-directive, independent study in special education. PREREQUISITE: Consent of instructor. [0808-8]

†7003. **Workshop in Special Education: — (1-9).** Opportunity for continuing growth to the professional in the fields of special education and rehabilitation, such as intensive study in methodologies, research, issues and trends in various areas of exceptionality and disabilities. May be repeated when topic varies. See *Schedule of Classes* for exact subtitles. [0808-1]

7004. **Selected Topics in Special Education and Rehabilitation: — (1-3).** Investigation of current topics in selected area(s) of special education and rehabilitation. May be repeated with a change in content and topic emphasis. See *Schedule of Classes* for exact subtitles. [0819-1]

7101-8101. **Psycho-Social Aspects of Pre-School Education for Exceptional Children. (3).** Research dealing with physical, men-

tal, emotional and social traits of the exceptional child in pre-school years. PREREQUISITES: SPER 7000, SPER 7001 [0808-1]

7121-8121. **Development Assessment and Educational Programming of Pre-School Education for Exceptional Children. (3).** Methods involved in educational developmental assessment and educational planning for exceptional children in pre-school years. PREREQUISITE: SPER 7101/8101. [0808-1]

†7141-8141. **Practicum in Pre-School Education for Exceptional Children. (3-6).** Observation and supervised experience in pre-school educational settings. PREREQUISITE: SPER 7121/8121. [0808-5]

7201-8201. **Characteristics of the Educationally Handicapped. (3).** Examination of etiology, psychological, social, physical and learning related performances of the educationally handicapped in developmental life periods. Emphasis upon interrelated nature of handicapping conditions; their prevention, treatment and remediation. PREREQUISITE: SPER 7000 or equivalent. [0808-1]

7203-8203. **Psycho-Social and Educational Aspects of Emotionally Disturbed. (3).** Characteristics of the emotionally disturbed and behaviorally disordered. Emphasis on social, psychological and biological theories of causality, assessment and education with a variety of emotional and/or behavioral problems. [0816-1]

7211-8211. **Methods and Techniques of Teaching in Special Education I. (3).** Methods, assessment, remediation and educational planning for handicapped learners. PREREQUISITE: SPER 7000 or equivalent and consent of instructor. [0808-1]

7222-8222. **Methods and Techniques of Teaching Emotionally Disturbed. (3).** Procedures for educating the emotionally disturbed. Emphasis on teaching behaviors, psycho-educational management of behavior, and effective teaching technique. PREREQUISITE: SPER 7203 or consent of instructor. [0816-1]

†7241. **Supervised Practicum in Special Education. (3-9).** Observation and supervised field experience(s) with handicapped learners. PREREQUISITE: Consent of instructor. [0808-5]

7401. **Psycho-Social and Educational Aspects of Learning Disabilities. (3).** Psychological, social and educational characteristics of individuals with learning disabilities. Theories and philosophies regarding the treatment, etiology and management considerations stressed. [0818-1]

7411. **Methods of Teaching Children with Learning Disabilities I. (3).** Remedial approaches for children with learning disabilities. Emphasis on developmental sequence and educational practices. [0818-1]

7431-8431. **Advanced Theories in the Classroom Management of Handicapped Learners. (3).** Emphasis placed on practical application of behavior change technology with handicapped learners. [0808-1]

†7441. **Practicum in Teaching Children with Learning Disabilities I. (3).** Supervised experiences in working with children with learning disabilities. [0818-5]

7501. **Psycho-Social and Educational Aspects of Mental Retardation. (3).** Historical, philosophical and societal perceptions of the mentally handicapped. Emphasis on social, emotional, physical, and learning characteristics. [0810-1]

7511. **Clinical Problems in Teaching Mentally Retarded Children. (3).** Emphasis is on diagnostic and pedagogical techniques used with retarded children at the pre-academic level. PREREQUISITES: SPER 7000 and SPER 7501. [0810-1]

7512. **Curriculum and Instruction for the Educable Mentally Retarded. (3).** Organizational patterns, curriculum designs, instructional techniques, and materials for the educable mentally retarded learner. PREREQUISITE: SPER 7501. [0810-1]

7513. **Techniques of Teaching the Educable Mentally Retarded at the Secondary Level. (3).** Work-study programs, functional academics, and academic remediation for adolescent and adult mentally retarded. PREREQUISITE: SPER 7501. [0810-1]

7516. **Instructional Programs and Provisions for the Trainable Mentally Retarded. (3).** Instructional objectives, techniques, programs and placement alternatives for the trainable mentally retarded. PREREQUISITE: SPER 7501. [0810-1]

7521-8521. **Advanced Theory in Curriculum Development for the Mentally Retarded. (3).** Investigation of curricula design and approaches for the mentally retarded. [0810-1]

†7541. **Supervised Practicum with the Educable Mentally Retarded I. (3-6).** Observation and supervised field experience in working with the mentally retarded. [0810-5]

†7546. **Supervised Practicum with Trainable Mentally Retarded. (3-6).** Orientation, observation, and teaching the trainable mentally retarded. [0810-5]

7601. **Introduction to Programs for the Severe/Profoundly Multi-Handicapped. (3).** Overview of the characteristic and nature of severe/profound multi-handicapped. Investigation of programs, services and professions involved with this population. [0820-1]

7602. **Social/Psychological Aspects of Severe/Profound Multi-Handicapping Conditions. (3).** Social, legal, and psychological aspects of serving the severe/profound multi-handicapped population. [0820-1]

7611. **Methods, Curriculum, and Materials for Severe/Profoundly Multi-Handicapped Learners. (3).** Practical methods, curriculum and materials for instructing severely/profoundly multi-handicapped learners. [0820-1]

7711. **Methods and Materials for Teaching Visually Handicapped Children. (3).** Educational implications of visual problems; historical background of special programs for visually handicapped, and adaptation of educational methods and materials. [0814-1]

7731. **Teaching of Braille I. (3).** Basic fundamentals in Braille instruction. [0814-1]

7732. **Teaching of Braille II. (3).** Continuation of SPER 7731 with exposure to actual reproduction and development of Braille. PREREQUISITE: SPER 7731. [0814-1]

801. The Talented and Mentally Gifted. (3). Historical and societal perceptions and definitions of the talented and mentally gifted individuals; their social, emotional, and learning processes. [0811-1]

811-8811. Methods of Teaching the Gifted and Academically Talented. (3). Teaching strategies for fostering gifted behavior at preschool, elementary and secondary levels. Procedures and criteria for evaluating curriculum sequences and guides; alternative strategies for curriculum development; the writing and implementing of individualized educational plans. [0808-1]

901. Principles and Techniques of Rehabilitation Counseling. (3). Overview of the broad field of rehabilitation including the philosophical, social, psychological and legal basis of rehabilitation, the rehabilitation process and the counselor's role and function in the rehabilitation process. [1222-1]

903. Psycho-Social Aspects of Rehabilitation. (3). Theories and research in the area of the social psychological adjustment of disability. [1222-1]

911-8911. Medical Aspects of Rehabilitation. (3). Orientation to the medical profession, its specialties and relationship to rehabilitation; a familiarity with basic medical and clinical terminology, a survey of body systems, their basic functions, malfunctions; and the more common diagnostic and treatment procedures. [1222-1]

921. Vocational Development and Occupational Information Service. (3). Collection, evaluation and use of occupational, educational and related information in rehabilitation. Familiarity with the development of job descriptions and vocational surveys. Study of labor market trends and theories of occupational choice. [1222-1]

†7941. Practicum In Rehabilitation Counseling. (3). Supervised counseling experiences with rehabilitation clients. Application of appropriate theories, principles and practices to personal counseling. [1222-5]

†7942. Internship In Rehabilitation Counseling. (3-9). Supervised field experiences in cooperation with the state rehabilitation agency and other human service agencies and facilities. [1222-5]

†7996. Thesis. (3-6). [0808 6]

†8000. Education Specialist Thesis. (3-9). [0808 6]

8010. Seminar In Special Education and Rehabilitation. (3-6) Continuing series of professional seminars designed to provide a forum for discussion of major problems, issues, trends and research concerning exceptional individuals. May be repeated for a maximum of 6 hours. PREREQUISITE: Consent of instructor. [0808-1]

8011. Advanced Research Seminar In Special Education and Rehabilitation. (3). Examination of current and classical research concerning the special education and rehabilitation of exceptional individuals. PREREQUISITE: Consent of instructor. [0808-1]

8012. Social-Psychological Aspects of Disabling Conditions. (3). Investigation of social position and attitudes toward the disabled. PREREQUISITE: Consent of instructor. [0808-1]

†8041. Advanced Practicum In Special Education and Rehabilitation. (3-6). Supervised experience(s) in cooperation with university, local, state, and national educational and rehabilitation personnel. May be repeated for a maximum of 6 hours. PREREQUISITE: Consent of instructor. [0808-5]

†8042. Advanced Internship In Special Education and Rehabilitation. (3-6). Practical experience in the methods, theories, and practices of various local, state and national agencies; institutions of higher education; state departments of education, state institutions, and private residential facilities for exceptional children. May be repeated for a total of 12 hours. PREREQUISITE: Consent of instructor. [0808-5]

8100. Administration and Supervision of Special Education Programs. (3). Issues in school administration and supervision as they relate to special education. [0809-1]

8231. Advanced Seminar In the Psycho-Social and Educational Aspects of Emotional Disturbance. (3). Theoretical and research bases for present practices in the education and treatment of emotional disturbance. PREREQUISITE: Consent of instructor. [0816-1]

8531. Socio-Cultural and Biological Aspects of Mental Retardation. (3). Current thinking concerning the etiology of mental retardation with emphasis upon prevention, treatment and education. [0810-1]

†9000. Doctoral Dissertation. (3-12). [0808-7]

†Grades of S, U, or IP will be given.





THE HERFF COLLEGE OF ENGINEERING

Dean
ORVILLE E. WHEELER, Ph.D.

Director of Graduate Studies,
FREDRICK W. SWIFT, Ph.D.

COLLEGE OF ENGINEERING GRADUATE ACADEMIC PROGRAMS

Department	Major	Concentrations	Degree Offered
Civil Engineering	Civil Engineering	(1) Environmental Engineering (2) Foundation Engineering (3) Structural Engineering (4) Transportation Engineering	Master of Science (M.S.)
Electrical Engineering	Electrical Engineering	(1) Solid State Electronics (2) Automatic Control Systems (3) Engineering Computer Systems (4) Microwave and Antenna Systems	Master of Science (M.S.)
Geology	Geology		Master of Science (M.S.)
Engineering Technology	Technical Education	(1) Architectural (2) Construction (3) Electronics (4) Manufacturing (5) Industrial Arts	Master of Science (M.S.)
Mechanical Engineering	Mechanical Engineering	(1) Design and Manufacturing (2) Energy Systems (3) Mechanical Systems (4) Power Systems	Master of Science (M.S.)
Interdepartmental	Industrial Systems Analysis		Master of Science (M.S.)
	Individual Studies	(by contract)	Master of Arts (M.A.) Master of Science (M.S.)

CIVIL ENGINEERINGPROFESSOR THOMAS S. FRY
Chairman

Room 104A, Engineering Building

The Department of Civil Engineering offers graduate programs leading to the Master of Science degree with a major in Civil Engineering. Concentrations are available in Environmental Engineering, Foundation Engineering, Structural Engineering, and Transportation Engineering.

M.S. Degree Program**Program Admission**

Students who hold the degree of Bachelor of Science in Civil Engineering from an ECPD accredited institution will be admitted to full-time graduate study if their academic record warrants.

Admission of all other students holding a Bachelor of Science degree will be considered on an individual basis depending on academic background and record. Students admitted in this category will be expected to take additional course work, as needed, to complete their background in basic Civil Engineering.

Program Prerequisites

Bachelor of Science Degree

Program Requirements

18 hours of 7000 level courses

33 hours without thesis option

30 hours with thesis option

Concentration may be made by selection of courses from the following four areas:

Environmental Engineering

7135, 7141, 7143, 7144, 7145, 7146, 7147, 7148, 7149, 7991, 7992, 7996.

Foundation Engineering

6136, 6152, 7131, 7132, 7134, 7135, 7991, 7992, 7996.

Structural Engineering

6131, 6136, 7001, 7111, 7115, 7117, 7991, 7992, 7996.

Transportation Engineering

6162, 6164, 7001, 7162, 7163, 7164, 7166, 7168, 7169, 7991, 7992, 7996.

Q800 CIVIL ENGINEERING (CIVL)

31. **Intermediate Steel Design. (3).** Design of plate girders and composite beams; moment connections; building design. *Three lecture hours per week. PREREQUISITE: CIVL 3131. [0908-1]*

36. **Intermediate Reinforced Concrete Design. (3).** Design of slab systems; column design including length effects; graded building design using current code provisions. *Three lecture hours per week. PREREQUISITES: CIVL 4135. [0908-1]*

43. **Environmental Engineering I. (3).** Basic physical chemical treatment concepts for water and wastewater will be presented with laboratory demonstration of unit operations and processes as well as derivation of design data through laboratory studies. *Two lecture, three laboratory hours per week. PREREQUISITE: Consent of instructor. [0922-1]*

44. **Environmental Engineering II. (3).** Basic biological treatment concepts for wastewater with laboratory demonstration of unit operations as well as derivation of design data through laboratory studies. *Two lecture, three laboratory hours per week. PREREQUISITE: Consent of instructor. [0922-1]*

45. **Applied Soil Mechanics. (3).** Applications of theory to physical design of building foundations; retaining walls, hydraulic structures and machine foundations. *Three lecture hours per week. [0921-1]*

52. **Traffic Engineering. (3).** The study of the traits and behavior patterns of road users and their vehicles. Includes traffic signs and signals, pavement markings, hazard delineation, capacity, accidents and parking analysis. *Three lecture hours per week. PREREQUISITE: Approval of instructor. [0908-3]*

54. **Advanced Surveying. (3).** Elements of route location and design with emphasis on horizontal and vertical alignment, curvature, gradient and sight distance. *Two lecture, three laboratory hours per week. PREREQUISITE: CIVL 3111. [0908-1]*

71. **Engineering Analysis. (3).** Numerical integration of linear and non-linear differential equations; finite difference methods; systems of linear algebraic equations; applications to engineering problems. *Three lecture hours per week. PREREQUISITE: CIVL 3101 or equivalent. [0908-3]*

72. **Probabilistic Methods in Engineering. (3).** Concepts and methods of probability and statistics that are essential for modern engineering problems under conditions of uncertainty. Application to practical problems. *Three lecture hours per week. PREREQUISITE: Consent of instructor. [0908-3]*

73. **Matrix Analysis of Structures. (3).** Matrix formulation of the finite displacement methods. Code system in the displacement method and advanced programming techniques in digital computation. *Three lecture hours per week. [0908-3]*

74. **Advanced Structural Analysis. (3).** Numerical methods in structural analysis. Finite difference, partial difference and numerical integration methods for buckling and dynamic response of structural elements. Computer solutions. *Three lecture hours per week. PREREQUISITE: Consent of instructor. [0908-1]*

75. **Plate and Shell Structures. (3).** Analysis and design of circular shell and folded plate structures; translation shell of double curvatures. Computer applications. *Three lecture hours per week. PREREQUISITE: Consent of instructor. [0908-1]*

76. **Earthquake Engineering. (3).** Introduction to mechanics of earthquakes and strong ground motion. Analysis of structural response to seismic loadings. Seismic design criteria. *Three lecture hours per week. [0908-1]*

7117. **Finite Element Methods in Structural Mechanics. (3).** Structural idealization, stiffness properties of elements, structural analysis of element assemblage. Plane stress and strain problems. Applications to problems of plates and shells. Computer solution of large systems. *Three lecture hours per week. PREREQUISITES: Consent of instructor. [0908-1]*

7118. **Design of Structural Systems. (3).** Integrated design of buildings and bridges; application of current codes and specifications. *Three lecture hours per week. PREREQUISITE: Consent of instructor. [0908-1]*

7121. **Prestressed Concrete Design. (3).** Theory of prestressing. Design of prestressed concrete beams, slabs and box girders. Statically determinate and indeterminate structures. *Three lecture hours per week. PREREQUISITE: Consent of instructor. [0908-1]*

7122. **Plastic Design of Steel Structures. (3).** Plastic analysis and design of steel structures; application to multi-story buildings. *Three lecture hours per week. PREREQUISITE: Consent of instructor. [0908-1]*

7131. **Foundation Engineering. (3).** Critical study of foundation design of completed projects using case records; emphasis on failures and performance records. *Three lecture hours per week. [0908-1]*

7132. **Advanced Soil Mechanics. (3).** Basic theory and status of current research; applications to foundation problems. *Three lecture hours per week. [0921-1]*

7134. **Flow Fluids Through Porous Media. (3).** Fluid seepage and underflow problems; filtration; groundwater flow. *Three lecture hours per week. [0908-1]*

7135. **Engineering Aspects of Sedimentation and Erosion. (3).** Equations governing the hydraulic of bed loads and sediment movement from the basic hydrodynamics to the present state of the art. Case histories of sedimentation in reservoirs, scour prediction below dams, scour around bridge piers and channel diversions will be evaluated and used for design. *PREREQUISITE: Consent of instructor. [0908-1]*

7141. **Advanced Water Treatment. (3).** An in-depth analysis of theory and practice of industrial and domestic water treatment; physical, chemical, physical/chemical techniques; removal of micropollutants. *Three lecture hours per week. [0922-1]*

7142. **Environmental Engineering Design. (3). (6147).** Design of a water and wastewater treatment plant; application of fundamental treatment theory; evaluation of alternatives. *Three lecture hours per week. PREREQUISITE: Consent of instructor. [0922-1]*

7143. **Solid Waste Management I. (3).** Systems approach to solid waste generation, characterization, collection, transportation, disposal emphasizing both domestic and industrial wastes. *Three lecture hours per week. PREREQUISITE: Consent of instructor. [0922-1]*

7144. **Solid Waste Management II. (3).** Systems approach to unique solid wastes (flammable industrial, sewage sludge, etc.), as well as resource recovery and energy conversion as disposal practices. *Three lecture hours per week. PREREQUISITE: Consent of instructor. [0922-1]*

7145. **Wastewater Treatment I. (3).** In-depth study of the biological kinetics applicable to wastewater treatment (industrial and domestic); model evaluations; biological treatment systems. *Three lecture hours per week. PREREQUISITE: CIVL 6144 or consent of instructor. [0922-1]*

7146. **Wastewater Treatment II. (3).** Physical/chemical techniques for wastewater treatment; theories of action; industrial and domestic wastes; tertiary level of treatment; micropollutant removal. *Three lecture hours per week. PREREQUISITE: CIVL 6143 or consent of instructor. [0922-1]*

7147. **Water Resources Engineering I. (3).** Basic aspects of water resource engineering with emphasis on application of hydrology, groundwater, water law, reservoirs, dams, and engineering economy. *Three lecture hours per week. PREREQUISITE: Consent of instructor. [0908-1]*

7148. **Water Resources Engineering II. (3).** Introduction to open channel hydraulics, in-depth study of the energy and momentum principle of open channel flow, flow resistance in non-uniform flow computation. *Three lecture hours per week. PREREQUISITE: Consent of instructor. [0908-1]*

7149. **Water Resources Engineering III. (3).** Advanced studies in water resources engineering; major emphasis on unsteady flow hydraulics, flood routing, sediment transport, stream re-aeration, stream oxygen sag analysis, river basin administration, thermal pollution, thermal stratification in reservoirs, and beat balances. *Three lecture hours per week. PREREQUISITE: CIVL 7148 or consent of instructor. [0908-1]*

7153. **Air Pollution Engineering I. (3).** Introductory course covering the different aspects of air pollution control; in particular, the sources, types, and effects of specific air pollutants. Dispersion modeling and atmospheric reaction, involving both meteorological and climatological aspects, are discussed and their relation to the regulations governing the emissions and control of air pollutants. *Three lecture hours per week. PREREQUISITE: Consent of the instructor. [0922-1]*

7154. **Air Pollution Engineering II. (3).** Sampling and analysis of air pollutants in its various forms; control methods and equipment with application to various types of pollutants. *Three lecture hours per week. PREREQUISITE: CIVL 7153. [0922-1]*

7162. **Transportation I. (3).** Highway and railroad engineering; planning and economics. Includes design, construction, planning, economic feasibility, and financing. Emphasis on highway and railroad transportation as regional systems. *Three lecture hours per week. PREREQUISITE: Approval of instructor. [0908-1]*

7163. **Transportation II. (3).** The planning and design of air and water transportation facilities. Items include financing, traffic control, aircraft characteristics, demand, site location, runway configuration, terminal areas and other items affecting the comprehensive planning, design and operation of modern airports; and the characteristics of facilities, unique to water transportation. *Three lecture hours per week. PREREQUISITE: Approval of instructor. [0908-1]*

7164. **Urban Transportation Engineering. (3).** A review of the transportation problem as it relates to the development patterns in American cities. The theory and application to engineering and socio-economic factors directed toward the formulation of models for conducting transportation studies. *Three lecture hours per week. PREREQUISITE: Consent of the instructor. [0908-1]*

7166. **Design of Highway and Airport Pavements. (3).** Design practices, materials and testing of flexible and rigid pavements. *Three lecture hours per week. PREREQUISITE: Consent of instructor. [0908-1]*

7168. **Traffic Engineering Operations. (3).** Theory of traffic control; traffic laws and ordinances; application of traffic control devices; analysis and design of traffic signal systems; parking control and design; pedestrian control; one-way and unbalanced lane operation; roadway illumination; selected operational problems. *Three lecture hours per week. PREREQUISITES: CIVL 6162 or consent of instructor. [0908-1]*

7169. **Mass Transit Systems. (3).** Operational analysis of equipment and facility design and service characteristics of urban mass transit systems; analysis of capacity, speed, accessibility, terminal operations; study of financing, decision-making, administration and marketing policies and practices; trends in future transit technology. *Three lecture hours per week. PREREQUISITE: Consent of instructor. [0908-1]*

7991. **Projects I. (1-3).** Independent investigation of a problem selected in consultation with instructor; report required. Course cannot be repeated regardless of number of hours credit received when course is taken. *Three to nine laboratory hours per week. [0908-8]*

7992. **Projects II. (1-3).** Independent investigation of a problem selected in consultation with instructor; report required. Course cannot be repeated regardless of number of hours credit received when the course is taken. *Three to nine laboratory hours per week. [0908-8]*

†7996. Thesis (1, 3, or 6). [0908-6]

†Grades of S, U, or IP will be given.

ELECTRICAL ENGINEERINGPROFESSOR THOMAS D. SHOCKLEY, JR.
Chairman

Room 206

Engineering Building

I. The Department of Electrical Engineering offers graduate programs leading to the Master of Science degree with a major in Electrical Engineering. Concentrations are available in Solid State Electronics, Automatic Control Systems, Computer Science, and Microwave and Computer Systems.

II. M.S. Degree Program**A. Program Admissions**

Students who hold the degree Bachelor of Science in Electrical Engineering or an equivalent degree will be admitted to full-time graduate work if their academic record warrants. Students who hold degrees in mathematics or physics will be admitted to the program if their academic record warrants, but they will be expected to take additional coursework to complete their background in basic electrical engineering.

B. Program Requirements

1. 30 semester hours, including a thesis (6 semester hours). An average grade of "B" must be maintained in ALL Electrical Engineering graduate course work.

2. 33 semester hours — no thesis. An average grade of "B" must be maintained in ALL Electrical Engineering graduate course work.

a. 21 semester hours at the 7000 level

b. 24 semester hours in Electrical Engineering

c. 9 semester hours may be taken outside the department on advisor's approval.

3. Both programs require at least 18 semester hours at the 7000 level in Electrical Engineering.

4. All students are required to pass a written comprehensive exam during their last semester.

5. Students may elect to pursue graduate work in one of the following areas of concentration by completing 21 semester hours of coursework. At least 12 of the 21 semester hours must be taken at the 7000 level.

a. Solid State Electronics: ELEC 6221, 6232, 6240, 6241, 7201, 7212, 7215, 7231, 7232, and 7261.

b. Automatic Control Systems: ELEC 6215, 6216, 6251, 6261, 7240, 7251, 7252, 7521, and 7522.

c. Computer Science: ELEC 6205, 6222, 6230, 6232, 6270, 6271, 7205, 7215, 7261, 7271, and 7272.

d. Microwave and Antenna Systems, ELEC 6213, 6230, 6232, 7211, 7212, 7213, 7251, and 7252.

Note: Projects I or II (ELEC 7991 or 7992) or Thesis (ELEC 7996) may be taken for 3 semester hours credit in any of the areas of concentration.

Q820 ELECTRICAL ENGINEERING (ELEC)

6202. **Electrical Power Systems. (3).** Investigation of problems associated with the transmission of electrical energy. Load-flow studies, and fault analysis by use of symmetrical components. *PREREQUISITES: Graduate standing and permission. Three lecture hours per week. [0909-1]*

6205. **Continuous System Simulation. (4).** Introduction to analog computers. Use of analog computers, hybrid computers, programming languages and simulation languages for the sim-

ulation of linear and nonlinear systems. *Three lecture, three laboratory hours per week.* PREREQUISITES: Graduate standing and permission. [0909-3]

6212. Electromagnetic Field Theory II. (4). Plane, cylindrical and spherical waves; high frequency transmission lines; introduction to microwave and antenna theory. PREREQUISITES: Graduate standing and permission. *Three lecture, three laboratory hours per week.* [0909-1]

6213. Antenna Theory and Design. (4). Continuation of 6212 with emphasis on the theory and design of antennas. Determination of antenna radiation characteristics. Introduction to antenna array theory. PREREQUISITE: ELEC 4212-6212. *Three lecture, three laboratory hours per week.* [0909-1]

6215. Introduction to Bio Engineering. (3). Use of engineering concepts for modeling physiological phenomena. Introduction and use of piecewise-linear functions for the characterization of system components such as the respiratory, sensory, circulatory and muscular subsystems. Introduction to computer processing of electrocardiograms, cybernetic actuators, and design of prosthetic devices. PREREQUISITES: Graduate standing and permission. *Three lecture hours per week.* [0905-1]

6216. Bio-Control Systems. (3). Introduction to neural networks. Use of classical feedback control theory for the study of homeostasis and biological control mechanisms. Use of electromagnetic field theory in electrocardiography and hemodynamics. PREREQUISITES: Graduate standing and permission. [0905-1]

6221. Pulse and Digital Circuits. (4). Timing, scanning, trigger and pulse circuits; astable, bistable and monostable multivibrators; binary counting circuits. PREREQUISITES: Graduate standing and permission. *Three lecture, three laboratory hours per week.* [0909-3]

6222. Introduction to Logical Design and Switching Circuits. (3). Introduction to the analysis and design of logical switching circuits; logic, number systems, digital computer components. PREREQUISITES: Graduate standing and permission. *Three lecture hours per week.* [0702-1]

6230. Data Communications Systems. (3). Data communications in information and computing systems. Analog and digital means of transmitting and controlling information. Organization and requirements of data communication systems including modulation and demodulation, multiplexing, switching, error detection and correction. On and Off line, real and non-real time, and time sharing systems. PREREQUISITES: Graduate standing and permission. *Three lecture hours per week.* [0702-1]

6231. Communication Theory. (3). Frequency and time domain. Modulation, random signal theory, auto-correlation, basic information theory, noise communication systems. PREREQUISITES: Graduate standing and permission. *Three lecture hours per week.* [0909-1]

6232. Discrete Signal Processing. (3). An introduction to deterministic and random discrete-time signal time averaging, digital filtering, spectral analysis, and detection and estimation of signals. Applications to computer processing of biomedical, seismic, and radar signals. PREREQUISITES: Graduate standing and permission. [0703-1]

6240. Introduction to Quantum Electronics. (3). Quantum concepts, Schrodinger equation, quantization of electromagnetic radiation. Laser theory and application. PREREQUISITE: Graduate standing. *Three lecture hours per week.* [0909-1]

6241. Solid State Physical Electronics. (3). Quantum concepts; statistics; crystal structure; conduction processes in solids; p-n junctions and devices; field-effect devices; charge transfer devices. PREREQUISITE: ELEC 3211. *Three lecture hours per week.* [0909-1]

6251. Control System Engineering. (4). General equations of physical linear systems and their transfer functions. Transient analysis and stability of control systems. Bode plots, Nichols plot, Routh-Hurwitz criterion, root locus method, introduction to compensation techniques and systems in state space. PREREQUISITES: Graduate standing and permission. *Three lecture, three laboratory hours per week.* [0909-1]

6261. Introduction to Network Synthesis. (3). Synthesis of canonical LC, RL, RC, and RLC driving point impedances. Introduction to the synthesis and realization of lossy one and two port networks. PREREQUISITES: Graduate standing and permission. *Three lecture hours per week.* [0909-1]

6270. Introduction to Microprocessors. (3). LSI circuitry, microprocessor architecture, hardware and software applications, and system design using a Microprocessor Assembler. *Three lecture hours per week.* PREREQUISITE: ELEC 3220. [0701-1]

6271. Microcomputer Applications. (3). Introduction to common peripheral devices and interfacing techniques. Use of high level languages to aid in microcomputer system design. Microprocessor applications. PREREQUISITE: ELEC 6270 or permission of the instructor. [0705-1]

7021. Modern Engineering Concepts I. (3). Introduction to the theories and the technological society. Concepts of modeling, and the use of analogies and analog computers in the simulation of processes. An introduction to man and machine logic, and the functioning of digital computers. This course cannot be applied toward a major in engineering. PREREQUISITES: Graduate standing and permission. *Three lecture hours per week.* [0901-1]

7022. Modern Engineering Concepts II. (3). Introduction to digital computer programming and its application. The use of compilers, assemblers, and sub-routines. The study of dynamic systems, and the concepts of stability and feedback. Man-machine systems, and the development of devices for human use. This course cannot be applied toward a major in engineering. PREREQUISITE: ELEC 7021. *Three lecture hours per week.* [0901-1]

7201. Electronic Processes and Solid State Devices. (3). Structure of crystals. Quantum concepts. Statistical distributions and transport phenomena. Conduction in conductors and semiconductors. Analysis of modern solid state devices such as masers and lasers. PREREQUISITES: Graduate standing and permission. *Three lecture hours per week.* [0909-1]

7205. Hybrid Simulation Techniques. (3). Introduction to hybrid computer techniques, hardware and software. Hybrid computer solutions of field problems, parameter optimization and optimal control system problems and man-machine systems. PREREQUISITE: ELEC 6205 or permission. *Three lecture hours per week.* [0909-1]

7211. Advanced Electromagnetic Field Theory. (3). Advanced work. PREREQUISITE: Consent of instructor. [0908-1] studies in electromagnetic fields, radiation and propagation of energy. PREREQUISITE: ELEC 6212 or permission. *Three lecture hours per week.* [0909-1]

7212. Wave Propagation in Plasma. (3). Propagation of electromagnetic waves in homogeneous and inhomogeneous plasma. Dispersion relations, plasma oscillations and energy transfer. PREREQUISITE: ELEC 6212 or permission. *Three lecture hours per week.* [0909-1]

7213. Radiation and Antenna Theory. (3). Radiation characteristics of conducting and dielectric configurations. Theoretical analysis of antennas and antenna systems. Engineering applications of antennas and radiating structures. PREREQUISITE: ELEC 6213 or permission. *Three lecture hours per week.* [0909-1]

7215. Physiological Signal Processing. (3). Application of classical spectral theory, discrete transform theory, and attribute identification techniques to the processing of electrocardiograms, electroencephalograms, electromyograms, and electroretinograms. Computer analysis of experimental data from evoked potential experiments. Introduction to computer diagnosis. PREREQUISITES: Graduate standing and permission. [0909-1]

7231. Transistor Circuit Analysis and Design. (3). Analysis and design of small and large signal transistor amplifiers. Multistage amplifiers. Analysis and design of oscillators. Feedback and stability in amplifier design. PREREQUISITES: Graduate standing and permission. *Three lecture hours per week.* [0909-1]

7232. Advanced Semiconductor Circuit Design. (3). Continuation of 7231. Design and application of negative resistance devices. Parametric devices, noise theory; application of these devices in communications systems. PREREQUISITE: ELEC 7231. *Three lecture hours per week.* [0909-1]

7240. Analysis and Design of Active Networks. (3). Analysis of two port networks, synthesis of passive and active networks, utilizing lossy and iterative methods, Modern filter theory. *Three lecture hours per week.* PREREQUISITES: Graduate standing and permission. [0909-1]

7251. Random Signals and Noise. (3). Statistical methods for describing and analyzing random signals and noise. Autocorrelation, crosscorrelation, and spectral density functions. Optimal linear filter theory. PREREQUISITE: ELEC 6231 or permission. *Three lecture hours per week.* [0909-1]

7252. Information Theory. (3). Introduction to entropy and channel capacity, group codes, block codes, cyclic codes. Application of coding techniques to improve system reliability. Error correcting codes. PREREQUISITE: ELEC 7251 or permission. *Three lecture hours per week.* [0909-1]

7261. Logical Design and Switching Circuits. (3). Analysis and design of switching circuits; logic, number systems, digital computer components, synthesis of sequential switching circuits. *Three lecture hours per week.* PREREQUISITE: ELEC 6222 or permission. [0909-3]

7271. Minicomputer Systems. (3). Modern mini- and microcomputer systems. Emphasis on computer architecture and how it influences instruction, data and control structures. Program and data organization, memory management, and other software engineering techniques are studied. Present mini- and microcomputer applications in communications, process control, and instrumentation and related interfacing problems. PREREQUISITES: Graduate standing and permission. *Three lecture hours per week.* [0705-1]

7272. Microprogramming. (3). Principles and practices of microprogramming in modern computer systems. Effects of microprogramming on computer architecture and instruction sets, on software engineering and hardware/software tradeoffs, and on computer applications, particularly in real time systems. PREREQUISITES: Graduate standing and permission. *Three lecture hours per week.* [0909-3]

7521. Advanced Control System Engineering I. (3). Cascade and feedback compensation. Analysis and control of nonlinear systems. Introduction to adaptive control systems and optimal techniques. PREREQUISITE: ELEC 6251 or permission. *Three lecture hours per week.* [0909-1]

7522. Advanced Control System Engineering II. (3). Continuation of 7521. Performance criteria for optimum design, computer usage in optimum design. Adaptive control and learning systems. PREREQUISITE: ELEC 7521 or permission. *Three lecture hours per week.* [0909-1]

7991. Projects I. (3). Independent investigation of a problem selected in consultation with instructor; report required. PREREQUISITES: Graduate standing and permission. *Nine laboratory hours per week.* [0909-8]

7992. Projects II. (3). Independent investigation of a problem selected in consultation with instructor; report required. PREREQUISITES: Graduate standing and permission. *Nine laboratory hours per week.* [0909-8]

†7996. Thesis. (1-6). Master's thesis. [0909-6]

†Grades of S, U, or IP will be given.

ENGINEERING TECHNOLOGY

PROFESSOR W. T. BROOKS
Chairman

Room 205 Technology Building

I. The Department of Engineering Technology offers a graduate program leading to the Master of Science degree with a major in Technical Education. Concentrations are available in Arc lecture, Construction, Electronics, Industrial Arts and Manufacturing.

II. M.S. Degree Program

A. Program Admissions

1. Admission requirements of the Graduate School.

2. Personal interview with department chairman of Engineering Technology.

B. Program Prerequisites

A minimum of 18 semester hours in an undergraduate technology program or related area.

C. Program Requirements

1. A total of 33 semester hours for candidates writing a search report.

2. A total of 30 semester hours for candidates writing a thesis.

3. 7090 Research in Technical Education and 7015 Applied Statistical Methods of Industry must be completed by each candidate.

4. A minimum of 9 semester hours must be taken in one specialization area.

5. A minimum of 9 semester hours must be taken in professional-technical course work.

6. Candidates for the degree must pass a comprehensive written examination conducted by three staff members designated by the student and his advisor.

a. Comprehensive examinations can only be taken when specialization and professional-technical minimum requirements are complete.

b. The comprehensive written examination will be administered the first Monday of April, July and November of each year; the university is not in session on these dates the following Monday will be designated.

7. A follow-up oral examination is optional with the examination committee.

Q890 TECHNOLOGY (TECH)

PROFESSIONAL-TECHNICAL (TECH)

7001. Foundations of Technical Education. (3). Occupational shifts resulting from recent advances in science and technology; the changing nature of the labor force, economic and social implications of automation and various contemporary sources of power. Attention given to educational programs needed to meet technical and skilled manpower requirements; the development of technical education and its function, philosophy, trends and types of Industrial Arts, Vocational-Industrial and Technical Education programs. [0839-1]

7002. Technical Education Program Planning. (3). Program and curriculum development in Industrial Arts, technical institutes, junior colleges, and area vocational-technical schools. Problems of college students and their adjustment to college level industrial and technical subject matter. Professional problems, ethics and advancement of the technical teacher. Curriculum design including the interrelationship of mathematics, science and technical courses in technical curriculum. Selection and arrangement of teaching content, methods and preparation of assignments. [0839-1]

7003. Administration of Technical Education. (3). The functions of administration and supervision; problems involved in the organization and operation of technical and vocational programs. For administrators and supervisors of vocational technical education and those preparing for such positions. Principles and practices underlying decision making process and management by objectives as correlated with industrial environments. [0925-1]

7004. Layout of Technical Education Facilities. (3). Plan and designing shops and laboratories. Determining specifications and purchasing equipment for technical education programs. [0839-1]

7005. Measurements and Evaluation of Products, Skills, and Technical Knowledge. (3). Criteria and instrument development, testing techniques and appraisals. Special emphasis given to principles and methods of evaluation of progress; laboratory and construction of pertinent and effective evaluation devices. [0839-1]

7006. Instructional Aids for Technical Education. (3). Construction and use of teaching aids for technical subjects. Manufactured aids and the production of non-commercially available aids to facilitate comprehension of industrial processes; technological principles involved. Emphasis given to visual mock-ups, working models, and other such aids. [0839-1]

7007. Advanced Technical Writing. (3). Principles and practices involved in specification writing and feasibility studies. Investigation and organization of proposals, progress reports as well as the analysis of copywriting processes and legal aspects of contracts. [0839-1]

7015. Applied Statistical Methods of Industry. (3). Application of statistical concepts to production processes and data gathering in industry including frequency, distribution, location, dispersion, probability distributions, confidence limits, significance tests and industrial sampling. [0925-1]

7090. Research in Technical Education. (3). Analysis of theories, methods, and techniques of research available in technical education. Emphasis on the design, investigation, reporting of research studies relating to technology and technical education. [0839-1]

091. Studies in Applied Technology. (3-6). Field research for the application of theory to a selected problem in industry or technical education. Emphasis on the scientific approach to solving a given problem. Practical teaching experience in the form of an internship program required for inexperienced teachers as part of this course. [0925-8]

7996. Thesis. (1-6). Writing of the thesis with emphasis on adequate setup of the problem, collection of data, their use, and conclusions. Students must present in writing a proposal acceptable to the graduate committee under whose direction the thesis is to be written. [0925-6]

SPECIALIZATION COURSES

ARCHITECTURE (TECH)

525. Building Codes and Regulations. (3). Building Codes and Regulations, in general, that influence the design and construction of buildings. Specific study of the local building code and regulations that influence building construction in Memphis and Shelby County. [0925-1]

530. Architectural Specifications and Contracts. (3). Typical contract documents beginning with the agreement between the architect and owner and continuing through construction. Emphasis on the roles and responsibilities of each party. CSI format for specifications also covered including the proper organization, writing and utilization of a complete set of specifications. [0925-1]

500. Advanced Mechanical Design. (3). Advanced environmental architecture correlated with the practical design of utilitarian plants and structures in relation to isolated self-contained industrial plants. [0925-1]

501. Architectural Graphics. (3). Techniques of contemporary presentation applicable to architectural design with emphasis on advanced perspective and delineation. Computer applications and calibration table will be utilized for the theoretical procedures. Practical problems utilized to develop the creative capacities of mature students. [0925-1]

502. Problems in Architectural and Construction Technology. (3). Study and research of specialized problems in creating up-to-date structures and developing efficient construction methods. Project work oriented to the individual student in advanced areas of architectural or construction technology. [0925-8]

COMPUTER SYSTEMS TECHNOLOGY (TECH)

251. Assembly Language Programming. (4). Investigation of a particular minicomputer from the programmer's viewpoint, including machine representation of data, instruction formats, machine operation and addressing techniques, input/output, and interrupts. Applications will include the use of minicomputers for numerical control and in sensor based systems. PREREQUISITE: Permission of instructor. [0701-1]

271. Computer Techniques. (4). Advanced computer techniques in industry. Topics include APT programming for NC machine tools; application of the computer to solve PERT networks, and applications in production planning and control. PREREQUISITE: Permission of instructor. [0703-1]

331. Computer Technology I. (3). Introduction to digital and analog computer hardware relating to computing circuits and systems; memory systems; switching and logic circuits; storage devices; input and output devices; principles of program control. Two lecture, three laboratory hours per week. PREREQUISITE: TECH 2831 or permission of the instructor. [0701-1]

332. Computer Technology II. (3). Introduction to internal computer organization and configuration design; component and device characteristics; data representation, transfer and storage; Boolean algebra; combinational logic. Two lecture, three laboratory hours per week. PREREQUISITE: TECH 6831 or permission of the instructor. [0701-1]

334. Digital Systems in Technology. (4). Industrial and commercial applications of microcomputers and microprocessors; theory of operation of MSI and LSI logical devices, memory and input/output devices; techniques of microprogramming, testing and maintenance. Three lecture, three laboratory hours per week. PREREQUISITE: TECH 6832. [0925-1]

CONSTRUCTION (TECH)

222. Construction Logistics. (3). Theory and practice of construction project bidding using statistical concepts of probability and computer applications. Office procedures, job and cost control, and the analysis of starting and completing construction contracts will be studied. [0925-1]

03. Theory of Construction Technology. (3). Contemporary concepts involved in planning, production, fabrication, and erection; the interrelationship of construction materials and economic factors. [0925-1]

05. Construction Planning and Scheduling. (3). Contemporary methods used in construction planning and scheduling, emphasis on the Critical Path Method-CPM, in construction and computer application. Solution of actual problems will be presented. [0925-1]

06. Construction Equipment Cost Analysis. (3). A thorough study of the different elements of construction cost — one being equipment. The annual cost, depreciation, replacement, and retirement of construction equipment. Benefit-cost ratio, income tax influence on buying of new equipment. Other aspects of construction cost. Computer application in the construction cost analysis. [0925-1]

ELECTRONICS (TECH)

400. Problems in Electronics. (3). Individual study in any field covered by senior undergraduate courses as approved by advisor. [0925-8]

501. Precision Measurements. (3). Review of electronic fundamentals and circuits precedes study of sensors, servos and analog devices, and the combination of these and other components into measuring instruments. [0925-1]

7811. Technology of Electronic Communication Systems. (3). Engineering and economic aspects in the design and operation of publicly and privately owned communication systems. [0925-1]

7832. Advanced Digital Circuit Technology. (3). Technology of logic circuits, counters and memory devices as used in modern digital computer systems. Practical measurement and maintenance techniques as applied to actual computer devices. [0925-1]

INDUSTRIAL ARTS (TECH)

6361. Organization and Management of the School Shop. (3). Understanding and application of vocational training program organization and classroom management. Includes organization, management, administration, training area layout, equipment, facility update, curriculum utilization and budgeting. [0925-1]

6363. School Shop Safety. (3). Overview of evolving school shop safety standards as prescribed by OSHA and TOSHA. Understanding and application of safety standards. Includes OSHA and TOSHA standards, fire prevention, C.P.R., school shop safety programs, and accident prevention. [0925-1]

7204. History of Industrial Education. (3). Historical development of industrial education from its earliest beginnings to the present day. [0839-1]

7596. Trends and Issues in Vocational, Technical, and Industrial Arts Education. (3). In-depth study of contemporary trends and issues affecting vocational, technical and industrial arts education, and development of possible solutions or alternatives. [0839-1]

MANUFACTURING (TECH)

6460. Motion and Time Analysis. (3). A study of methods improvements, motion economy, and the development of time standards by direct observation, predetermined time standards, and synthesis. [0925-1]

6462. Statistical Quality Control. (3). Statistical methods for analyzing quality problems, includes control charts for variables and attributes; single, double and multiple lot-by-lot acceptance sampling plans, and computer applications to quality assurance. [0925-1]

6464. Production Control. (3). The planning and control of production with emphasis on intermittent and continuous manufacturing. Fields of study include forecasting, designing control forms, using visual controls, scheduling, dispatching, preplanning, and using critical path techniques. [0925-1]

6466. Plant Layout. (3). A study of plant design with respect to material handling, machine location, auxiliary services, capital requirements, safety, and personnel organization. [0925-1]

6470. Human Performance Factors. (3). Determining the most effective way to integrate the man and the task; work procedure, workstation layout, and equipment design. [0925-1]

7401. Advanced Motion and Time Analysis. (3). Advanced methods in time and motion study, balancing operations; learning curves, work sampling, memomotion and chronocyclegraph studies, fatigue effects, determination and application of elemental time data, statistical methods in time study. [0925-1]

7402. Advanced Quality Control. (3). Advanced statistical methods applied to quality control problems, significance tests, correlation analysis, sequential sampling, analysis of variance, design of experiments, principles of reliability. [0925-1]

7404. Production and Inventory Control. (3). Planning and control of inventory and production by means of statistical analysis of problems, simulation techniques, and mechanized execution of inventory and production control functions. [0925-1]

7406. Advanced Factory Layout and Materials Handling. (3). Redesign or renovation of existing or addition of new plant facilities, flow patterns, machine selection and location, estimate of unit costs, estimate of capital requirements. [0925-1]

7408. Production Processes. (3). A coordinated study of manufacturing processes and equipment, operation sequence planning, economic aspects of equipment selection, tooling and processing a product from product design to final assembly for quantity production. [0925-1]

7410. Problems in Manufacturing. (3). Specific manufacturing problems with emphasis on solution development for an actual manufacturing situation. Problems will be selected through agreement of adviser and student. [0925-8]

7470. Advanced Human Performance Factors. (3). Detailed study and directed research into specific man-machine and man-environment relationships with industrial applications. PREREQUISITE: Permission of instructor. [0925-1]

Q895 VOCATIONAL TECHNICAL EDUCATION (VTEd)

6110. Job Analysis. (3). Systems approach to identifying and specifying content in vocational-technical education, the components of an instructional system, identification of student needs and abilities, job descriptions, job analysis, and instructional objectives. [0925-1]

6120. Curriculum Building in Industrial Education. (3). Basic techniques in curriculum planning in education including planning and preparing learning sequences, preparing learning activities, selecting and preparing learning resources and evaluating student performance. [0839-1]

6130. Organization and Operation of Youth Organizations. (2). Development and operation of youth organizations in vocational training programs. Includes youth organization development, history of youth organizations in America, parliamentary law, youth organization activity and competition. [0925-1]

6210. Methods of Teaching Industrial Education. (3). Understandings and skills required for planning, utilizing, and evaluating instructional methodologies and techniques used in industrial education. [0839-1]

6611. Principles and Philosophy of Vocational Education. (3). (Same as DTED 6611). History, philosophy, principles and objectives of vocational education; curriculum problems; contribution of vocational technical education to general education; trends in vocational-technical education. [0839-1]

GEOLOGY

PROFESSOR RICHARD W. LOUNSBURY
Chairman

Room 312 Engineering Building

I. The department of Geology offers a graduate program leading to the Master of Science degree with a major in Geology.

II. M.S. Degree Program

A. Program Admission

1. Graduate Record verbal and quantitative.
2. Graduate Record advanced.
3. Two letters of recommendation.

B. Program Prerequisites

1. Bachelor of Science or Bachelor of Arts.
2. Field course (to be made up if not taken at the undergraduate level).

C. Program Requirements

1. Thesis.
2. Minimum requirements of the Graduate School.

Q850 GEOLOGY (GEOL)

6100. Petroleum Geology. (3). Application of geologic principles to the search for economic accumulations of oil and gas. Emphasis on prospect selection via subsurface techniques. Two lecture, two laboratory hours per week. PREREQUISITES: GEOL 3512 and 3712. [1914-1]

6121. Optical Crystallography. (3). Principles and methods of study of optical crystallography; use of the polarizing microscope in the identification of minerals by the immersion methods. Two lecture, two laboratory hours per week. PREREQUISITE: GEOL 2311 or 2312. [1914-1]

6201. Airphoto Interpretation and Remote Sensing. (4). Introduction to the theory and application of black and white and color air photos and side-looking radar, multispectral scanner and infrared imagery. Laboratory primarily concerned with black and white air photos. [1914-1]

6202. Geomorphology. (4). Theories of landscape development; consideration of the processes active at the earth's surface; weathering, pedogenic, mass wasting, groundwater, fluvial, eolian, shoreline and glacial processes. Three lecture, two laboratory hours per week. PREREQUISITE: GEOL 1101. [1914-1]

6251. Quaternary Geology. (3). Quaternary stratigraphy and history with special emphasis on the implications of climatic change. Geologic techniques particularly suited to Quaternary research. PREREQUISITE: GEOL 1201. [1914-1]

6301. Geologic Data Analysis. (3). Use of the computer and teletype in data file construction and management, use of file with various programs, and use of statistical tests, regression lines, maps, and a classification of data sets with the aid of the computer. Two lecture and two laboratory hours per week. PREREQUISITE: Senior standing in geology or consent of the instructor. [1914-1]

6312. Introduction to X-ray Diffraction. (3). The basic principles of the x-ray diffraction. Its application to crystallographic and mineralogical problems including mineral identification by the powder method. PREREQUISITE: Permission of the instructor. [1914-1]

6322. Petrography. (4). Classification, description, and thin-section study of rocks by means of the petrographic microscope. Two lecture, four laboratory hours per week. PREREQUISITE: GEOL 6121. [1914-1]

6332. Introduction to Geochemistry. (3). Geological and chemical processes which govern or control the migration and distribution of the elements and atomic species in the earth in space and time. Three lecture hours per week. PREREQUISITE: Consent of instructor. [1915-1]

6342. Principles of Biostratigraphy. (3). (6421) Zonal distribution, facies analysis and paleoecology of fossils and their application to problems of earth history and depositional environments. Emphasis will be placed on fossil fuel bearing sediments. PREREQUISITES: GEOL 3211 and 3712. [1918-1]

6511. Economic Mineral Deposits. (3). Origin, occurrence, and composition of metallic and non-metallic mineral deposits. Three lecture hours per week. PREREQUISITES: GEOL 2312 and 3512. [1914-1]

6601. Engineering Geology. (3). The application of the principles and knowledge of geology to engineering practice, especially in highway construction, dam sites, foundations, water resources and location of certain engineering materials. PREREQUISITE: Consent of instructor. [0911-1]

6622. Geology Field Camp. (6-8). Mapping of the structure and lithology of a prescribed geologic area. To be offered during the summer. Course may be taken at a college field camp offered by other schools subject to approval of major advisor. A special problem will be assigned over and above the work required by undergraduates. [1914-8]

6632. Applied Geophysics. (4). Geophysical methods emphasizing seismic and electrical investigations employed in engineering practice. The use of resistivity and seismograph in the investigation of subsurface materials, the location of sand, gravel and subsurface water are discussed and will be supplemented by field measurements with these instruments. Two lecture, four laboratory hours per week. [1916-1]

6701. Spring Field Trip. (1-2). Conducted field trips during spring vacation. About 30 hours of field work will follow 2-4 hours of lectures. Open to non-majors. Among the areas which may be included are Ouachita Arbuckle Wichita mountains of Oklahoma; Ouachita, and adjacent mineral districts; central and

southern Appalachians; and Gulf Coastal Plain. Check *Schedule of Classes* for specific location. NOTE: May be repeated three times when location varies. A total of no more than 8 hours credit may be earned. [1914-8]

7101. Transmission Electron Microscopy. (4). Introduction to the transmission electron microscope, specimen preparation and photographic techniques. One lecture and six laboratory hours per week. PREREQUISITE: Consent of instructor. [1914-1]

7102. Scanning Electron Microscopy. (4). Introduction to the scanning electron microscopy and associated techniques. One lecture and six laboratory hours per week. PREREQUISITE: Consent of instructor. [1914-1]

7103. Advanced Electron Microscopy. (4). Advanced techniques in scanning and transmission electron microscopy. One lecture and six laboratory hours per week. PREREQUISITES: Either BIOL 7101-8101 and 7102-8102, or CHEM 7101-8101 and 7102-8102, or GEOL 7101 and 7102. [1914-1]

7311. Advanced Physical Geology. (3). Development of the earth with emphasis on the pros and cons of the New Global Tectonics and Continental Drift. Plots the relationship between diverse aspects such as volcanism, climate, continent and sea floor topography, earthquakes, etc. Three lecture hours per week. [1914-1]

7312. Advanced Historical Geology. (3). Geotectonic development, stratigraphic and life history of the North American continent with special emphasis on the United States. Three lecture hours per week. PREREQUISITE: Consent of instructor. [1914-1]

7321. X-Ray Diffraction Techniques. (3). The application of x-ray diffraction techniques to crystallographic problems. One lecture, four laboratory hours per week. PREREQUISITE: Consent of instructor. [1914-1]

7331. Advanced Geochemistry. (3). Study of selected topics, particularly mineral phase equilibria, geochronology, trace element and isotope distribution. Three lecture hours per week. PREREQUISITE: GEOL 6332 or consent of instructor. [1915-1]

7340. Clay Mineralogy. (3). The origin, occurrence and properties of well crystallized and fine grained layer silicates and related minerals are discussed in terms of their chemical and structural variations. PREREQUISITE: Consent of instructor. [1914-1]

7352. Sedimentary Petrology. (4). Examination of sedimentary rocks in the field, in hand specimen, and through the microscope with the view of explaining sedimentary rock classification, the post depositional changes that occur in sediments and the bearing of these factors on geology as a whole. PREREQUISITE: Consent of instructor. [1914-1]

†7360. Advanced Study in Mineralogy and Crystallography. (1-4). Directed laboratory or field research project selected in consultation with instructor. Report required. Hours and credits to be arranged. [1914-8]

†7370. Advanced Study in Petrology. (1-4). Directed laboratory or field research project selected in consultation with instructor. Report required. Hours and credits to be arranged. [1914-8]

†7380. Advanced Study in Geomorphology. (1-4). Directed work selected in consultation with instructor. Hours and credit to be arranged. [1914-8]

†7440. Advanced Study in Paleontology. (1-4). Directed laboratory or field research project selected in consultation with instructor. Report required. Hours and credits to be arranged. [1918-8]

†7510. Advanced Study in Geotectonics. (1-4). Directed laboratory or field research project selected in consultation with instructor. Report required. Hours and credits to be arranged. [1914-8]

7560. Petrography of Aggregates. (3). Aggregate sources and evaluation of aggregates for concrete and rock products through petrographic examination, including microscopic, x ray and other analyses. Chemical reactions deleterious in concrete and natural stone products. PREREQUISITE: Consent of instructor. [0911-1]

7631. Seminar in Geology. (1). [1914-1]

7641. Seminar in Geology. (1). [1914-1]

†7996. Thesis. (1-6). [1914-6]

The following courses are open ONLY to graduate students who are enrolled in the Master of Science in Teaching program. The courses offered will provide an adequate background for teaching geology at the secondary level.

7011. Earth Materials—Minerals and Rocks. (3). The composition and physical properties of the materials which make up the solid earth. The identification and classification of simple rock types and the important minerals which make up the common rocks. Two lecture, two laboratory hours per week. [1914-1]

7022. Geotectonics. (3). Study of the structural framework of the earth. The form and arrangement of the rock masses which make up the crust of the earth. Three lecture hours per week. [1914-1]

7031. Principles of Historical Geology. (3). Methods of interpreting earth history from the sedimentologic and paleontological record, and a review of the geological and biological events which have led to the present distribution and configuration of continents and oceans, and the form and distribution of life. Two lecture, two laboratory hours per week. [1914-1]

†Grades of S, U, or IP will be given.

INDUSTRIAL SYSTEMS ANALYSIS

FREDRICK W. SWIFT, Director
Room 201-C Engineering Building

I. The Industrial Systems Analysis program is designed to provide an interdisciplinary area of study emphasizing model building and optimization techniques. This program offers a Master of Science degree with emphasis areas individually designed.

II. M.S. Degree Program

A. Program Admission

1. Students who hold a Bachelor of Science degree in any engineering discipline from and ECPD accredited institution and students holding a B.S. degree from a four-year ECPD accredited engineering technology program, will be admitted if their academic records warrants. Students holding a B.S., B.B., or B.A. in Science or Business will be admitted upon completion of appropriate undergraduate courses.

2. Miller Analogy Test or Graduate Record Exam.

B. Program Prerequisites

1. A bachelor's degree from an accredited four-year program.

2. Two semesters of calculus.

C. Program Requirements

1. Non-thesis option: 33 semester hours with a minimum of 21 hours in the Engineering College and a minimum of 9 hours in a collateral area.

2. Thesis option: 30 semester hours with a minimum of 18 hours in the Engineering College and a minimum of 6 hours in a collateral area, and 6 hours of thesis credit.

3. INSA 7610 and 7620 required for both options.

4. Course load maximums:

Full-time student — 16 credit hours per semester

Full-time provisional student — 12 credit hours per semester

Graduate Assistant — 9 credit hours per semester plus problems or thesis credit

Graduate assistantships are available; application should be made to the director of the program.

Student programs are arranged in consultation with the director of the program.

Q830 INDUSTRIAL SYSTEMS ANALYSIS (INSA)

7610. Modeling and Simulation of Industrial Systems. (3). The use of programming and the simplex algorithm to modeling of inventory, and traffic systems. Organizing and scheduling production in manufacturing systems. PREREQUISITES: Introductory programming and consent of instructor. [0913-1]

7620. Optimization of Controlled Systems. (3). Consideration and analysis of alternate operating methods in engineering systems. Optimization theory applied to allocation and utilization of industrial resources. PREREQUISITE: Equivalent of INSA 7610 or consent of instructor. [0913-1]

7630. Industrial Application of Operations Research. (3). Design of production planning and control systems. Forecasting and aggregate planning for large scale projects. Design of computer controls. PREREQUISITE: Equivalent of INSA 7610 or consent of instructor. [0913-1]

7640. Quality Assurance and Reliability. (3). Theory of reliability and quality control. The use of probability models. Data display and reduction, sampling statistics and their distributions. Implementation of quality assurance in industrial production. PREREQUISITE: Basic statistics and probability or consent of instructor. [0913-1]

7650. Application of Sequential Decision Theory. (3). General structure of statistical games; the use of optimal strategies, the invariance principle and sequential decision processes in the solution of industrial problems. Selected applications in queuing theory, fluctuation and renewal theory. PREREQUISITE: Consent of instructor. [0913-1]

7660. Advanced Stochastic Models in Industry. (3). Simulation monte carlo techniques; networks; integer programming; introduction to non-linear programming; dynamic programming; Markov chains; reliability and replacement. PREREQUISITE: Equivalent of INSA 7610 or consent of instructor. [0913-1]

7991. Research in Industrial Systems. (1-3). Independent investigation of a problem selected in consultation with instructor, report required. Course cannot be repeated regardless of number of hours credit received when course is taken. [0913-8]

†7996. Thesis. (3-6). [0913-6]

†Grades of S, U, or IP will be given

MECHANICAL ENGINEERING

PROFESSOR JOHN D. RAY,
Chairman
Room 108, Engineering Building

I. The department of Mechanical Engineering offers a graduate program leading to the Master of Science degree with a major in Mechanical Engineering. Concentrations are available in design and manufacturing, energy systems, mechanical systems, and power systems.

II. M.S. Degree Program

A. Program Admission

Graduate Record verbal and quantitative or Miller Analogy Test

B. Program Prerequisites

Bachelor of Science with a major in Mechanical Engineering.

C. Program Requirements

1. Non-Thesis Option: 33 semester hours with 21 hours in the major area and 12 hours in collateral areas.

2. Thesis Option: 30 semester hours, with 18 hours in the major area, 6 hours in a collateral area, and 6 hours of thesis credit.

3. A minimum of 18 credit hours must be at the 7000 level.

4. Transfer credit is limited to 6 credit hours.

5. Course Load Maximums:

Full-time student: 16 credit hours per semester

Full-time provisional student: 12 credit hours per semester

Graduate assistants: 9 credit hours per semester plus problems or thesis credit

Graduate assistantships are available; applications should be made to the chairman of Mechanical Engineering.

Student programs are arranged in consultation with the mechanical engineering advisory committee. The following courses are offered on sufficient demand.

Q870 MECHANICAL ENGINEERING (MECH)

6303. Experimental Stress Analysis. (3). Application of electrical resistance strain gage, photoelasticity and brittle lacquer techniques to the solution of stress analysis problems. [0910-1]

6313. Heat Transfer II. (3). Principles of boiling, condensing and radiation heat transfer. Fundamentals of heat exchange design. PREREQUISITE: MECH 4311. [0910-1]

6315. Ventilation and Air Conditioning. (3). Psychrometric analyses, heating and cooling loads of buildings, and analyses of air conditioning systems. PREREQUISITE: MECH 3311 [0910-1]

6316. Energy Conservation and Management. (3). Energy conservation including combustion, heat distribution, heat rejection, heating system efficiency, etc. Consideration given to the effects of energy production and utilization on the environment. Problems of energy management are considered. [0910-1]

6317. Fundamentals of Solar Engineering. (3). An introduction to the engineering applications of solar energy including discussions of solar energy collectors, storage systems, and use such as power generation and heating and cooling of buildings. PREREQUISITE: MECH 4311. [0910-1]

6318. Combustion. (3). Concepts of high temperature and chemically reacting gases. Adiabatic flame temperature. Kinetics of reactions. Detonation. Products of pollutants in combustion systems. [0910-1]

6325. Advanced Mechanics of Materials. (3). Unsymmetric bending and torsion of flexural members of non-circular cross section, beams of elastic foundations and other selected topics deformation beyond the elastic limit, theories of failure. [0910-1]

6326. Biomedical Systems Analysis-Mechanical. (3). Introduction to concepts used in analyzing living systems. Simulation of body functions with mechanical and computer models. Familiarization with the design of mechanical bioengineering devices such as heart valves, heart-lung machines, renal analysis machines. [0905-1]

6334. Engineering Acoustics and Noise Control. (3). An engineering analysis of acoustics related to noise and its control applications to the control of noise in machines, buildings, industrial facilities and transportation. [0910-1]

6345. Design of Mechanisms. (3). Graphical and analytic mechanism synthesis techniques for path generation, function generation, rigid body guidance and optimization of force transmission characteristics. PREREQUISITE: MECH 3321. [0910-1]

6346. Mechanical Controls. (3). Fundamental control system concepts, the Laplace transformation, modeling of mechanical control system elements, design of mechanical systems and stability criteria. PREREQUISITE: MATH 3391. [0910-1]

6351. Nuclear Engineering. (3). Power generation. Peaceful uses of nuclear energy. PREREQUISITE: Upper division or consent of instructor. [0920-1]

6371. Mechanical Vibrations. (3). Kinematics of harmonic and non-harmonic vibrations; systems of one and several degrees of freedom, free and forced vibrations; self-excited vibrations. PREREQUISITE: Differential Equations. [0910-1]

7301. Mechanics of Deformable Bodies. (3). Analysis of no rigid bodies, statically indeterminate members, instability, buckling loads, thick-walled cylinder analysis and other selected topics. [0910-1]

7302. Theory of Continuous Media. (3). Analysis of stress and deformation at a point; derivation of the fundamental equation in Cartesian tensor notation by application of the basic laws of conservation of mass, energy, and momentum in mechanics and thermodynamics. PREREQUISITE: Consent of instructor. [0910-1]

7304. Theory of Elasticity. (3). Development and clarification of the theories of elasticity used in introductory strength of materials. Development and strength of material. Development of application of more advanced methods for analysis. PREREQUISITE: MECH 3322 or equivalent. [0910-1]

7305. Advanced Fluid Flow I. (3). Basic equations and perfect fluid theory. Mathematical, numerical, graphical and analytical methods for solving ideal flow problems. Viscous fluid theory and introduction to boundary layer theory. Unsteady flow flows in rotating systems, and density-identified flow. Review of mathematical concepts involved in these topics. PREREQUISITE: MECH 3331 or equivalent. [0910-1]

7306. Advanced Fluid Flow II. (3). Coverage of laminar flow Newtonian fluids. Boundary layer theory introduction with application to stress and lubrication. [0910-1]

7308. Mechanics for Bio-Medical Engineers. (3). The analyses of the bone and joint structure of the body related to the basic mechanical equations and properties. Mathematical modeling of bone structure, mechanical properties, static loading, dynamic loading, fatigue, wear, corrosion. PREREQUISITE: MECH 3322, 4321. [0905-1]

7309. Fluid Mechanics for Bio-Medical Engineers. (3). Elements of hydrodynamics, cardio-vascular system, flow of fluids in tubes with elastic walls, pulsatile blood flow input impedance and pulse waves, vascular walls, flow through arterial walls, models of the circulation system. PREREQUISITE: Consent of instructor. [0905-1]

7310. Fluid Power Engineering. (3). Hydraulic- and air-flow pipes. Pneumatic and hydraulic fluid power-elements and systems. Input-output energy transfer devices. [0910-1]

7311. Advanced Topics in Fluid Flow I. (3). Subsonic and supersonic compressible flow, shockwaves, and selected topics. PREREQUISITE: MECH 7306 or consent of instructor. [0910-1]

7312. Advanced Topics in Fluid Flow II. (3). Applications of potential and boundary layer theory to engineering incompressible flow systems. [0910-1]

7321. Advanced Heat Transfer. (3). Steady and unsteady state. Walls and heat exchangers. [0910-1]

7323. Conductive Heat Transfer. (3). Fundamentals of steady-state and transient heat conduction; operational methods; Duhamel's method; composite regions; nonlinear boundary value problems. [0910-1]

7324. Radiative Heat Transfer. (3). Fundamentals of radiation interchange between evacuated surfaces; radiation interchange

between enclosures containing an absorbing and emitting medium; radiation properties of solids and gases; combined radiation, conduction, and convection; experimental methods. [0910-1]

7325. Convective Heat Transfer. (3). Fundamentals of free and forced convection heat transfer using differential and integral formulation of laminar and turbulent boundary layers for flow over internal and external surfaces; influence of temperature-dependent properties; convective heat transfer at high velocities. [0910-1]

7331. Advanced Thermodynamics. (3). Advanced topics in thermodynamics. PREREQUISITE: MECH 3311 or equivalent. [0910-1]

7332. Advanced Topics In Energy Conversion Processes. (3). Discussion of advanced energy conversion techniques. Topics include solar energy, geothermal energy and coal gasification. [0910-1]

7334. Biomedical Applications of Heat and Mass Transfer. (3). Heat transfer in biological systems. Mass transfer in biological systems. Heat-mass conversion in biological systems. First and second law of thermodynamics applied to biological systems. PREREQUISITE: MECH 3331. [0905-1]

7342. Advanced Mechanical Engineering Analysis. (3). Advanced analytical and numerical methods applied to problems in heat transfer, elasticity, and fluid mechanics. Topics covered include finite-difference and finite element methods. PREREQUISITE: MECH 6341. [0910-1]

7351. Nuclear Applications. (3). Power generation. Peaceful uses of nuclear energy. [0920-1]

7352. Reactor Analysis. (3). The design and analysis of industrial reactors which include discussions on chemical processing reactors, nuclear reactors, etc. [0910-1]

7361. Advanced Materials Science. (3). Study of the structure and properties of engineering materials using solid-state physics. PREREQUISITE: MECH 3361. [0915-1]

7365. Corrosion. (3). Fundamental causes and mechanisms; corrosion control; study of specific corrosion problems. [0910-1]

7371. Advanced Mechanical Vibrations. (3). Lagrange's and Hamilton's principles in the study of vibrating systems. Methods of solution for the equations of motion will be presented, including digital computer techniques. PREREQUISITE: MECH 4371 or 6371. [0910-1]

7373. Applied Wave Propagation. (3). Derivation of wave equation for fluids and solids, propagation in bars, plates and layered media, applications to determination of elastic constants, material anisotropy, flaw detection and seismology. PREREQUISITE: MECH 6371 or equivalent. [0910-1]

7391. Projects I. (3). Independent investigation of a problem selected in consultation with instructor; report required. [0910-8]

7392. Projects II. (3). Independent investigation of a problem selected in consultation with instructor; report required. [0910-8]

†7996. Thesis. (1, 3, or 6). [0910-6]

†Grades of S, U, or IP will be given.

INDEPENDENT DEPARTMENTS

AUDIOLOGY
AND
SPEECH PATHOLOGY

PROFESSOR DANIEL S. BEASLEY
Chairman and Coordinator of Graduate Studies
Speech and Hearing Center
807 Jefferson

I. The Department of Audiology and Speech Pathology offers graduate programs leading to the M.A. and Ph.D. degrees with a major in Audiology and Speech Pathology. Concentrations are available in Audiology and Speech Pathology. The Department has Educational Training Board and Professional Services Board accreditation from the American Speech and Hearing Association.

II. M.A. Degree Program

A. Program Admission

Students must have a GPA of 3.0 (on a 4 point system), a GRE score of 900, or an MAT score of 40 for automatic admission. Students with grades or scores below these minimums will be reviewed by the Departmental Admissions Committee.

B. Program Requirements for M.A. with Thesis Option

For persons with a background in audiology and speech pathology, a minimum of 42 credit hours (speech pathology) or 43 credit hours (audiology) must be completed, including the following:

1. 36 semester hours of graduate work exclusive of thesis or special project, with 24-30 semester hours in the major area, and completion of academic and practicum requirements for the Certificate of Clinical Competence of the American Speech and Hearing Association.
2. Completion of one hour of clinical experience (AUSP 7104 for Audiology majors and AUSP 7208 for Speech Pathology majors) in each semester of full time graduate study at this University. Students must complete a minimum of three semester hours of clinical practice with a grade of "B" or above within the time limit of six semesters, and must obtain a "B" or above in their last two semesters. Maximum of 4 semesters may be counted toward 36 hour requirement.
3. Completion of AUSP 7005, Introduction to Graduate Study.
4. Completion of thesis.

For persons with minimal academic background in audiology and speech pathology, additional course work and clinical training will be required. These will be determined individually for each student.

C. Program Requirements for M.A. with Non-thesis Option

The same requirements listed above will be met for non-thesis students except that:

1. AUSP 7990 (Special Projects) will be required in lieu of the thesis, and
2. Written comprehensive examinations will be completed during the final semester of graduate study.

III. Teacher Certification Requirements*

Memphis State University has no undergraduate program in speech pathology. Therefore, all applicants presented for initial State of Tennessee teacher certification through the College of Education will have completed the Master's degree in the Department of Audiology and Speech Pathology. Each student must meet the academic and practicum requirements for national certification by the American Speech and Hearing Association. In addition, each student must meet the Tennessee certification requirements which can be obtained in an undergraduate program, and which will be determined individually. Academic requirements for teacher certification are as follows:

A. General Education Core (40 semester hours)

B. Professional Education (20 semester hours)**

1. Core Professional Requirements (9 semester hours from the following courses or equivalent)

EDFD 2011 Foundations of Educational Thought and Practice
EDPS 2111 Human Growth and Development
EDPS 3121 Psychology of Learning

2. Specialized Professional Requirements (11 semester hours)

- a. Curriculum and Methods (6 semester hours from the following courses or equivalent)

AUSP 7207 Speech and Language Assessment

One course from the following:

CIED 7002 Fundamentals of Curriculum Development
CIED 7008 Seminar in Curriculum Improvement
SPER 8001 Seminar in Special Education and Rehabilitation
EDAS 7180 School Law
EDAS 7000 Human, School and Community Relationships

- b. Supervised Teaching (5 semester hours or equivalent)

AUSP 7208 Clinical Experience in Speech and Language

(This course is repeated each semester of full time graduate work and must be taken at least 3 full semesters. Progressive levels of competence and independence are expected).

C. Survey Course in Exceptional Children

SPER 7000 Psycho-Educational Problems of Exceptional Children and Adults (or equivalent).

D. Basic Science of Speech and Hearing

(12 semester hours from the following or equivalent)

AUSP 7001 Hearing Science
AUSP 7003 Anatomy and Physiology of the Speech Mechanism
AUSP 7006 Language and Speech Development
AUSP 7007 Communicative Interaction
AUSP 7008 Acoustic Phonetics
AUSP 7010 Neurological Bases of Communication
AUSP 7011 Psycholinguistics
AUSP 7013 Psychoacoustics
AUSP 7403 Parent Counseling

E. Speech Pathology (15 semester hours from the following or equivalent)

AUSP 7200 Introduction to Speech Pathology
AUSP 7201 Cleft Palate Habilitation
AUSP 7203 Voice Disorders
AUSP 7204 Articulation
AUSP 7205 Stuttering
AUSP 7210 Seminar in Speech Pathology
AUSP 7300 Language Disorders in Children
AUSP 7302 Aphasia I
AUSP 7304 Seminar in Language Disorders
AUSP 7305 Learning Disabilities
AUSP 7306 Laryngectomy
AUSP 7401 Therapeutic Communication in Speech Pathology and Audiology

AUSP 7402 Organization and Administration of Clinical Programs
AUSP 7404 Communication Centered Therapy

F. Audiology (The following 6 semester hours or equivalent)

AUSP 7100 Introduction to Audiology
AUSP 7122 Aural Rehabilitation

G. Clinical Practicum (300-500 clock hours of supervised practicum).

*Grandfather Clause: For persons who have obtained a Master's degree in Audiology and Speech Pathology from Memphis State University since 1970, the following applies.

1. Areas 4 through 7 will be considered as having been met.
2. SPER 7000 (or equivalent) may be included within category 2 under certain circumstances.

**No less than 6 semester hours must be in the psychological foundations of education.

IV. Ph.D. Degree Program

A. Program Admission

Students must have a GPA of 3.5 (on a 4 point system), a GRE score of 1000, and three letters of recommendation. All applicants are reviewed by the Departmental Admissions Committee.

Exceptions to the above requirements will be taken under advisement by the Review Committee.

B. Program Requirements

1. **Advisors.** The Chairman of the Department will serve as advisor for purposes of orientation and first semester registration. Within the first eight weeks, an advisor will be assigned to each doctoral student by the Department Chairman in consultation with the student to serve as the student's advisor and Chairman of the student's Planning Committee. The advisor shall be a member of the Graduate Faculty of Memphis State University.

2. **Planning Committee.** The Planning Committee's charge is diagnostic in evaluating the student's academic and clinical needs, resulting in the planning of the doctoral student's academic program. The Committee, members of the Graduate Faculty, shall number no less than three, at least two of which will be from the major area of the student's program. In addition, a faculty member from a proposed collateral area will be consulted concerning the appropriateness of the proposed collateral area courses. The student, in conjunction with the Committee, will develop a final academic plan to be in written form and filed in the Chairman's office. The plan must be filed no later than the middle of the second semester. The Committee will also recommend to the Graduate School those courses, if any, to be transferred to apply toward the Ph.D., provided that the credit meets general university requirements. This plan is to be signed by each member of the Committee and the doctoral student. The student or a Planning Committee member may propose changes after the plan has been filed. However, any resulting change in the student's plan will require written approval of the Committee and the doctoral student.

3. **Credit Hour Requirements.** Requirements for the doctoral degree shall not be less than 63 semester hours beyond the master's degree. Only graduate level courses may be counted as part of the 63 semester hours. Thirty-six hours shall be taken with the Department of Audiology and Speech Pathology of which a maximum of nine hours of Independent Projects plus Independent Readings, and a maximum of nine hours of Dissertation may be counted. The student may take additional Independent Projects and Reading hours, although these will not be counted toward the 36 hours.

Students will be required to complete nine semester hours of work in order to satisfy research tool requirements. Courses that may satisfy such requirements include those in statistics, research design, and computer programming.

Eighteen semester hours will be required from collateral areas. A collateral area is defined as a network of courses based on substantive commonality which may involve work in more than

one academic department. A minimum of two collateral area must be represented in the student's academic plan. At least nine semester hours of the student's collateral work must be taken in departments outside of Audiology and Speech Pathology. Semester hours applying to collateral areas that are taken in the Department of Audiology and Speech Pathology shall not be counted toward the 36 hours contributing to the student's major area.

4. **Doctoral Experience Requirements.** It is expected that doctoral students either will have completed a Master's thesis prior to entering the doctoral program or will complete an equivalent during the first year of doctoral study. All degree-seeking students will maintain 16-20 hours per week of teaching, research and/or clinical service responsibilities as part of their training. Those students wishing to pursue the Certificate of Clinical Competence shall devote 18-20 hours per week to clinical activities for an eighteen month period, as per the guidelines of the American Speech and Hearing Association.

5. **Qualifying Committee.** The Qualifying Committee will consist of members selected by the student in conjunction with the advisor. The Committee will consist of at least three members.

However, the composition of the Committee will be such that the student's major area and both collateral areas will be represented. At least two members must be from the student's major area and one member, representing a collateral area, must be from a department other than Audiology and Speech Pathology.

6. **Qualifying Examination.** The qualifying examination will consist of a written and oral examination. The written examination will entail 24-28 hours of writing, within a two week period. The examination will cover the student's major area and both collateral areas. The student may be asked questions calling for direct application of statistics and research design. The Qualifying Committee will determine the readiness of the student for the oral examination, the date of which shall be established within three weeks after the written examination. Prior to the oral examination, the student will meet with individual Committee members concerning the nature of the oral examination. The oral examination will entail further coverage of the area represented in the student's written examination.

The qualifying examination may be taken upon completion of the doctoral student's academic plan or within the last semester of completing his or her academic requirements. This examination will be administered any time within the specified semester subject to the discretion of the Qualifying Committee. The student's status relative to the qualifying examination shall be determined by the Committee after the oral examination. This determination will be based on a Committee vote. No more than one dissenting vote may be cast for a student to pass. The Committee has the authority to specify further stipulations aimed at remedying any deficiencies reflected in the student's qualifying examination. The Committee Chairman shall file the Department Chairman's office a decision in writing concerning the student's qualifying examination within two weeks after the oral examination.

7. **Candidacy.** After completion of all academic requirements and successful completion of the qualifying examination, a doctoral student may apply for candidacy.

8. **Dissertation Committee.** The Dissertation Committee will consist of a minimum of four faculty members selected by the student. At least two members must be from the student's major area and at least one member must be from a department other than Audiology and Speech Pathology. The Chairman of the Dissertation Committee must be from the student's major area and must be a full member of the Graduate Faculty.

9. **Dissertation.** The student will develop a prospectus in conjunction with the Dissertation Committee Chairman. The prospectus will be reviewed by the Committee and, if approved, the student will conduct the work set forth in the prospectus. The completed dissertation will be defended by the student. The oral defense will be open to the University community, with voting on the acceptability of the defense restricted to Dissertation Committee members. An affirmative decision will be rendered no more than one dissenting vote from the Committee is cast. The Chairman of the Dissertation Committee must cast an affirmative vote. An announcement of the scheduled defense must be sent to the Dean of the Graduate School one month prior to the scheduled date. After successful defense, any required revision, retyping, and resubmission of the dissertation to the Committee Chairman must be completed prior to the awarding of the degree.

V915 AUDIOLOGY AND SPEECH PATHOLOGY
(AUSP)

BASIC SCIENCE AREA

7000. **Introduction to Speech and Hearing Science.** (3). General areas of speech and hearing science and the following areas: study: acoustics, speech acoustics, acoustic analysis, acoustic phonetics, physiological acoustics, experimental phonetics, hearing physiology, speech reception, intelligibility, and perception. [1220-1]

7001-8001. **Hearing Science.** (3). Basic acoustics, psychophysics and physiological acoustics. PREREQUISITE: 7100 permission of instructor. [1220-1]

7002-8002. **Seminar in Speech and Hearing Science.** (3). Upper level masters and all doctoral students. Topics include acoustic phonetics, physiological phonetics, voice science and hearing science. For topic to be offered see the Schedule of Classes. PREREQUISITE: 7000 or 7001 or permission of instructor. [1220-1]

7003-8003. **Anatomy and Physiology of the Speech Mechanism.** (3). Basic anatomy and physiology of the human speech mechanism. [1220-1]

ism. (3). Structure and function of bodily organs related to the processes of speech production. [1220-1]

7004-8004. Anatomy and Physiology of the Hearing Mechanism. (3). Structure and function of bodily organs related to the processes of hearing. [1220-1]

7005. Introduction to Graduate Study. (3). Introduction to research applicable to Speech Pathology and Audiology and theories of measurement, including statistical and behavior designs, reliability and judgments, and replicability. [1220-1]

7006-8006. Language and Speech Development. (3). Normal acquisition and maintenance of speech and language, theoretical formulations about language and speech behavior, and approaches to its study. Students observe and describe the language of children of various ages whose development is within normal range. [1220-1]

7007-8007. Communicative Interaction. (3). Concepts and processes fundamental to communicative interaction. Emphasis on application of such concepts and processes to the student's own communicative interactions. [1220-1]

7008-8008. Acoustic Phonetics. (3). Acoustic theory of speech production and techniques of acoustic analysis; acoustic structure of vowels and consonants as well as prosodic features; and speech synthesis and speech perception. Discussions and demonstrations of basic instrumentation used to measure speech parameters. PREREQUISITE: 7000 or permission of instructor. [1220-1]

7009-8009. Language Processing of Adults. (3). Normal adult language behavior with emphasis upon processes required for communicative comprehension and expression. Special consideration to the influence of aging on these processes. [1220-1]

7010-8010. Neurological Bases of Communication. (3). Review of the neuroanatomy of the central and peripheral nervous systems and the physiology of nerves and muscles. Attention on cortical and subcortical structures and on neuropsychological processes which are attributed to speech and/or language functions. [1220-1]

7011-8011. Psycholinguistics: Symbol Systems and Communicative Behavior. (3). Linguistic structures of language, the nature and forms of symbolic behavior, and the human uses of symbols, particularly in communication. [1220-1]

7012-8012. Measurement Techniques. (2). Principles and techniques involved in measurement procedures frequently encountered in the practice of Audiology. Major focus will be on the topics of calibration, measurement of environmental noise, and measurement of electroacoustic characteristics of hearing aids. Laboratory experience is provided. PREREQUISITE: 7001 and 7101 or permission of instructor. [1220-1]

7013-8013. Psychoacoustics. (3). Modern theoretical and applied research concerning the psychological responses to acoustic stimuli. [1220-1]

7014. Physiological Acoustics. (3). Modern theoretical and applied research concerning the physiological responses, principally of the auditory system, to acoustic stimuli. [1220-1]

7015. Instrumentation. (3). The measurement and calibration of instrumentation typically used in speech and hearing science along with a discussion of pertinent electroacoustic principles. [1220-1]

7016. Seminar in Language Behavior. (3). Exploration of topics relevant to human communicative behavior. With different content, may be repeated for up to 12 hours. [1220-1]

AUDIOLOGY

100. Audiology. (3). The field of Audiology directed toward students from disciplines other than communication disorders. Topics include: the nature of sound, structure and function of the human auditory system, disorders of hearing, measurement of hearing and hearing loss, hearing conservation, and aural rehabilitation. [1220-1]

100. Introduction to Audiology. (3). Topics include: physics of sound, hearing loss, basic audiometric testing and hearing conservation. [1220-1]

101-8101. Audiological Concepts. (3). Investigation of basic audiological concepts and their applicability to clinical procedures. Topics include: masking, bone conduction, speech reception and speech discrimination. PREREQUISITE: 7100 or permission of instructor. [1220-1]

102-8102. Hearing Disorders. (3). Investigation of the audiological effects of diseases and injuries of the hearing mechanism. PREREQUISITE: 7100 or permission of instructor. [1220-1]

103-8103. Differential Audiology. (3). Consideration of special auditory tests involved in the differential diagnosis of peripheral hearing problems. PREREQUISITE: 7100 or permission of instructor. [1220-1]

104-8104. Clinical Experience in Audiology. (1). Supervised clinical experience in the evaluation and/or management of clients with hearing impairments. Designed to meet student's individual needs. May be repeated for up to 6 hours. [1220-5]

105-8105. Advanced Differential Audiology. (3). Consideration of special auditory tests and electrophysiological techniques in the differential diagnosis of nonorganic, peripheral, and central hearing disorders. PREREQUISITE: 7100 or permission of instructor. [1220-1]

112-8112. Seminar in Audiology. (3). Detailed study of selected topics in audiology. With different content, may be repeated for up to 12 hours at the 8000 level. PREREQUISITE: permission. [1220-1]

113-8113. Industrial, Community and Military Audiology. (3). Requirements of audiology in the management, control, evaluation, and conversation of hearing problems in industry and the military. PREREQUISITE: 7100 or permission of instructor. [1220-1]

114-8114. Amplification for the Hearing Impaired. (3). Detailed study of the operation and use of wearable hearing aids. Topics include: characteristics of hearing aids, standards for hearing aid performance measurement, selection and evaluation

of hearing aids. PREREQUISITE: 7101 or permission of instructor. [1220-1]

7115-8115. Special Populations in Audiology. (3). Audiologic procedures dealing with the assessment and rehabilitation of pediatric, geriatric and multiply handicapped population. PREREQUISITE: 7100 or permission of instructor. [1220-1]

7116-8116. Early Childhood Intervention with Pre-School Deaf Children. (3). Language development of the deaf child with emphasis on prelinguistic utterances, language comprehension and gesture language; effects of hearing impairment upon social, mental, and emotional development. [1220-1]

7122-8122. Aural Rehabilitation. (3). Introduction to and analysis of principles and techniques used for children and adults with impaired hearing to develop listening and visual skills and to utilize residual hearing. PREREQUISITE: 7100. [1220-1]

7123-8123. Manual Communication I. (1). History and comparison of various sign language systems such as Signed English, Ameslan, and Seeing Essential English, and training in the use of manual communication. [1220-1]

7990. Special Projects. (3). Individual needs of students who wish to explore an area with faculty guidance. Students may pursue a pilot study. May be taken twice. PREREQUISITE: Permission of individual faculty member be involved. [1220-8]

†7996. Thesis. (1-3). Academic credit for thesis may be taken for a maximum of 6 hours and a minimum of 3 hours degree credit. Only 3 credits may be applied toward degree requirements for the master's degree. [1220-6]

8100. Individual Readings, Audiology. (3). Independent study of literature in an area of audiology. May be repeated as often as desired. [1220-8]

8109. Audiology Internship in Medical Settings. (3-6). Lectures, conferences, and systematic experience as a participant in an interdisciplinary team with otology. [1220-5]

8121. Individual Projects, Audiology. (3). Students pursue individual research projects under the direction of a member of the graduate faculty in audiology. May be repeated as often as desired. [1220-8]

8124. Clinical Supervision in Audiology. (1). Processes involved in supervision of student clinicians in diagnostic audiology and/or aural rehabilitation. Experience in supervision of M.A. level student clinicians is provided. [1220-5]

†9000. Dissertation. (1-6). Academic credit for dissertation may be taken for a maximum of 12 hours and a minimum of 3 hours credit. Only 9 credits may be applied toward degree requirements for the Ph.D. degree.

SPEECH AND LANGUAGE PATHOLOGY

6200. Speech Pathology. (3). Communication disorders with special reference to those encountered by educators and others in the population 0-21. Observation and discussion of classroom management, roles of various specialists, and parent conferencing. [1220-1]

7200. Introduction to Speech Pathology. (3). The various speech disorders and the roles of the speech pathologist in professional practice. [1220-1]

7201-8201. Cleft Palate Habilitation. (3). Cleft palate speech with emphasis on articulatory, resonance, and phonatory aspects as well as medical and habilitative and rehabilitative principles. PREREQUISITE: 7003 and 7200 or permission of instructor. [1220-1]

7203-8203. Voice Disorders. (3). In depth review of voice disorders by patterns of deviation, etiology, and techniques of intervention. Opportunity for original papers and/or projects. [1220-1]

7204-8204. Articulation. (3). Current research in articulation testing, prediction, and retraining procedures. [1220-1]

7205-8205. Stuttering. (3). Review, evaluation, and synthesis of information regarding the definition of stuttering, theories of etiology, symptomatology, therapy approaches, and methods of research. [1220-1]

7207-8207. Speech and Language Assessment I. (3). Principles and procedures for tests of language and speech dysfunctions; test interpretation and rehabilitation planning. [1220-1]

7208-8208. Clinical Experience in Speech and Language Disorders. (1). Supervised clinical practice with clients. Designed to meet student's individual needs. May be repeated for up to 6 hours. [1220-5]

7210-8210. Seminar in Speech Pathology. (3). Selected areas of speech or language disorders. With different content may be repeated for up to 6 hours at the 7000 level or for up to 12 hours at the 8000 level. [1220-1]

7300-8300. Language Disorders in Children. (3). The linguistic and neurological aspect of behavior relative to disorders of language in children. In depth review of etiology, assessment and treatment. PREREQUISITE: 7006 or permission of instructor. [1220-1]

7302-8302. Aphasia I. (3). Clinical characteristics of aphasia in adults with emphasis on differential diagnosis and treatment. [1220-1]

7303-8303. Aphasia II. (3). Historical aspects, theory, and experimentation in aphasiology. PREREQUISITE: Aphasia I. [1220-1]

7304-8304. Seminar in Language Disorders. (3). Current experimental and clinical research of disorders of language. PREREQUISITE: Permission. [1220-1]

7305-8305. Learning Disabilities. (3). Critical study of the dysfunctions in the analysis and synthesis of sensory information including auditory, visual and haptic processing. Disturbances in symbolic operations are also discussed. Research, assessment and treatment of language and perceptual disorders with special application to the speech pathologist. [1220-1]

7306-8306. Laryngectomy. (3). Literature and procedures for habilitative programs for laryngeal voice production. Emphasis on medical, psychological and physiological changes in the laryngectomized. Lecture and laboratory. [1220-1]

7307-8307. Speech and Language Assessment II. (3). Interpretation of diagnostic findings leading to clinical decision-making, rehabilitative planning, and reporting. PREREQUISITES: AUP 7207 8207. [1220-1]

7401-8401. Therapeutic Communication in Speech Pathology and Audiology. (3). Theory and practice of therapeutic communication with application to persons with communicative disorders. Application to various types of clinical situations are explored. Students have the opportunity to study their own clinical behavior with special reference to their communicative relationships. [1220-1]

7402-8402. Organization and Administration of Clinical Programs. (3). Exploration of administrative structures applicable to the variety and scope of clinical programs in Speech Pathology and Audiology. Emphasis on possibilities for organizing, administering, and conducting such clinical programs. PREREQUISITE: Permission. [1220-1]

7403-8403. Intervention with Parents and Families of the Communicatively Impaired. (3). Review and discussion of literature regarding parents and families of persons with communication impairments. Supervised practicum experiences with such parents and other family members are required. [1220-1]

7404-8404. Communication Centered Therapy. (3). Investigation of theoretical bases of a communication centered approach to speech and language therapy and its clinical application. Readings and experience will include use of conversation units in speech and language activities, communicative play, and role playing. [1220-1]

7990. Special Projects. (3). Students study a specific area under faculty guidance. May be taken twice. PREREQUISITE: Permission of individual faculty members to be involved. [1220-8]

†7996. Thesis. (1-3). Academic credit for thesis may be taken for a maximum of 6 hours and a minimum of 3 hours credit. Only 3 hours of credit may be applied toward degree requirements for the master's degree. [1220-6]



INDEPENDENT DEPARTMENTS

Audiology & Speech Pathology, Planning

8200. Individual Readings, Speech Pathology. (3). Independent study of literature in an area of speech pathology. May be repeated as often as desired. [1220-8]

8221. Individual Projects, Speech Pathology. (3). Students pursue individual research projects under the direction of a member of the graduate faculty in speech pathology. May be repeated as often as desired. [1220-8]

8228. Clinical Supervision in Speech Pathology. (1). Study of processes involved in supervision of student clinicians in speech and language assessment and therapy. Experiences in supervision of M.A. level student clinicians are provided. [1220-5]

†9000. Dissertation. (1-6). Academic credit for dissertation may be taken for a maximum of 12 hours and a minimum of 3 hours credit. Only 9 hours may be applied toward degree requirements for the Ph.D. degree. [1220-7]

†Grades of S, U, or IP will be given.

PLANNING

PROFESSOR LINZY D. ALBERT, *Chairman and Coordinator of Graduate Studies*

Room 226, Johnson Hall

I. The Graduate Department of Planning offers the two-year professional Master of City and Regional Planning degree. Concentrations are available in Developmental Planning, Natural and Environmental Resources Planning, and Urban Revitalization Planning.

II. M.C.R.P. Degree Program

A. Program Admission — A minimum 2.75 (on a 4.0 scale) grade point average overall or a 3.0 GPA for the last two academic years; a minimum score of 35 on the Millers Analogies, or 900 total on the GRE score (maintaining a minimum of 400 each on the verbal and quantitative); and a prospect's interest in pursuing a career in planning, and ability to express educational and career objectives. Exceptions and probationary status can be made by the department depending upon the student's experience and other pertinent factors.

B. Program Prerequisite — Students are accepted from all undergraduate disciplines and professional areas; however, the department determines if students must do remedial work. Some credit may be granted by the department for remedial work if obtained at the graduate level after entering the program. Satisfactory completion of a course in statistics is mandatory, either at the undergraduate or graduate level. Non-program students are limited to courses titled Planning 7000 and 7011, and to other courses upon approval of the instructor after discussion between the instructor and the student's major advisor.

C. Program Requirements — The student is required to complete a minimum of 54 semester hours and to demonstrate professional competence through three (3) program options. Thirty (30) hours are taken in the core curriculum and 24 hours in electives selected from both within and outside the department. After completion of 30 semester hours of course work, the student must select one of three program options.

1. Thesis and thesis defense for which 6 hours credit will be granted.

2. Major project and project defense for which 3 hours credit will be granted.

3. *Comprehensive Written Examination* and oral defense successfully completed at the end of the semester in which the student expects to graduate.

When selecting one of the options above, the student in consultation with the advisor shall select an area of concentration composed of at least 12 semester hours of electives. After completing 24 semester hours, each student should meet with the faculty to review progress, complete a degree plan and receive a recommendation for continuation in the program.

D. Transfer of Credits — The Chairman may recommend to the Graduate Dean credit for planning course work successfully completed at other institutions but not to exceed 12 semester hours. For those students formerly enrolled in graduate planning programs approved by the American Planning Association, a maximum of 24 hours in planning course work may be approved.

E. Planning as Professional Practice

Planning is not a discipline, rather it is a professional practice. As such it uses the knowledge and technique of all disciplines and other professions in an interdisciplinary approach to solving urban problems. Planning is concerned with the spatial arrangement and interaction of human activity systems in urbanized areas and enables the arrangement of facilities and programs in an optimal and comprehensive way. As a professional practice, planning is concerned with guiding the growth and development of cities and regions toward desired objectives. Planning increases the effectiveness of public and private decision-making by giving careful consideration to goal formulation, the collection and organization of information and knowledge, and the design of policies and programs. The curriculum is intended to provide the basic knowledge and skills in theory, techniques, methods and practice. The program is a full member of the Association of Collegiate Schools of Planning, and its curriculum and graduate faculty is designed and recruited to meet the degree requirements of the American Planning Association — National Education Development Committee for program accreditation.

V930 CITY AND REGIONAL PLANNING (CRP)

CORE CURRICULUM

7000. Introduction to Planning. (3). Planning trends in United States and abroad, including land use planning, developmental planning, social planning, transportation planning, community facilities planning, and planning as a governmental activity at the local, state and federal levels. [0206-1]

7002. City Planning Principles and Theory. (3). The fundamental principles and theory of urban and regional planning with emphasis on comprehensive planning processes and appropriate theoretical foundations. [0206-1]

7003. Planning Legislation. (3). Historic development of enabling and regulatory legislation which extends the police power to plan implementation, and other pertinent national, state, and local legislation, including the study of both ideal and model legislative acts. [0206-1]

7004. Land Use Controls. (3). Restrictions on land uses, including codes and ordinances governing zoning, site planning, the subdivision of land, and performance standards. [0206-1]

7006. Field Course. (3). Individual and group practice in collection, analysis, and presentation of field data on selected planning problems. [0206-1, 8]

7007. Studio. (3). Individual and group planning for development of major public and private projects. [0201-1, 8]

7008. Site Planning. (3). Laboratory course in methods and techniques of land planning. [0206-1]

7011. Capital Budgeting. (3). (7706) Model building with regard to aggregating and allocating funds; prioritizing, project packaging and leveraging as part of plan implementation. [0206-1]

7012. Methodology and Techniques in Planning I. (3). Study collection and evaluation of economic, social, land use and environmental resources fundamental to the comprehensive planning process. [0206-1]

7013. Methodology and Techniques in Planning II. (3). (7010) Approaches and methodologies applied to urban planning analysis enabling choice and application of analytical techniques seeking ends and means integration in planning. Simulate problems dealing with substantive areas of planning will be used to define, identify, analyze, proposed solutions, and evaluate in futuristic time frameworks. [0206-1]

7101. Regional Planning. (3). Area and region delineation, regional planning organization, the various levels of planning, functions and problems of regional plan preparation and plan implementation. [0206-1]

7103. State Planning. (3). Comparative study of planning function in state government. [0206-1]

7201. Planning Community Facilities. (3). Planning the location and design of community facilities in the light of changing concepts of public service and community organization. [0206-1]

7202. Land Use Planning. (3). Contemporary methods of land use analysis and determination of spatial requirements with emphasis on measuring social and economic costs of land use decisions. [0206-1]

7204. Renewal Planning. (3). Changing urban land uses, first in areas which must improve or rebuild obsolete patterns, functions, and forms; and second in areas with acceptable use structures, and institutions, which in the interest and welfare of all the people must have additional space for growth and expansion. [0206-1]

7205. Seminar in Physical Planning. (3). Conceptual framework for advanced planning for urban and regional areas. [0206-1]

7206. Residential Land Use Analysis. (3). Survey of housing characteristics, financing, development, preservation and redevelopment in the land use pattern and plans of the community. [0206-1]

7301. Natural Resource Management Seminar. (3). Survey of the evolution of the conservation movement in this country and the programs of state and Federal agencies, including selective case studies in the management of water, timber, wildlife and mineral resources. [0206-1]

7302. Environmental Analysis Seminar. (3). Analytical and qualitative critique of the physical environment, with emphasis on housing, renewal, comprehensive plan elements and performance standards. [0206-1]

7303. Legal Aspects of Natural Resource and Environment Management. (3). Survey of local, state and Federal legislation regarding the regulation of environmental quality, including air and water quality standards, soil erosion, solid waste management, beautification, historic preservation, and nuisance control. [0206-1]

7701. Research Project. (1-3). Selected project in research areas with guidance from teaching staff. May be repeated for maximum of 3 hours credit. [0206-8]

7702. Internship. (3 or 6). Internship or work-study program in an agency or planning firm, including a written report critically describing the student's responsibilities. A full-time summer internship shall count for no more than 6 hours credit. Seminar sessions are held to review progress. May be repeated for maximum of 6 hours credit. [0206-5]

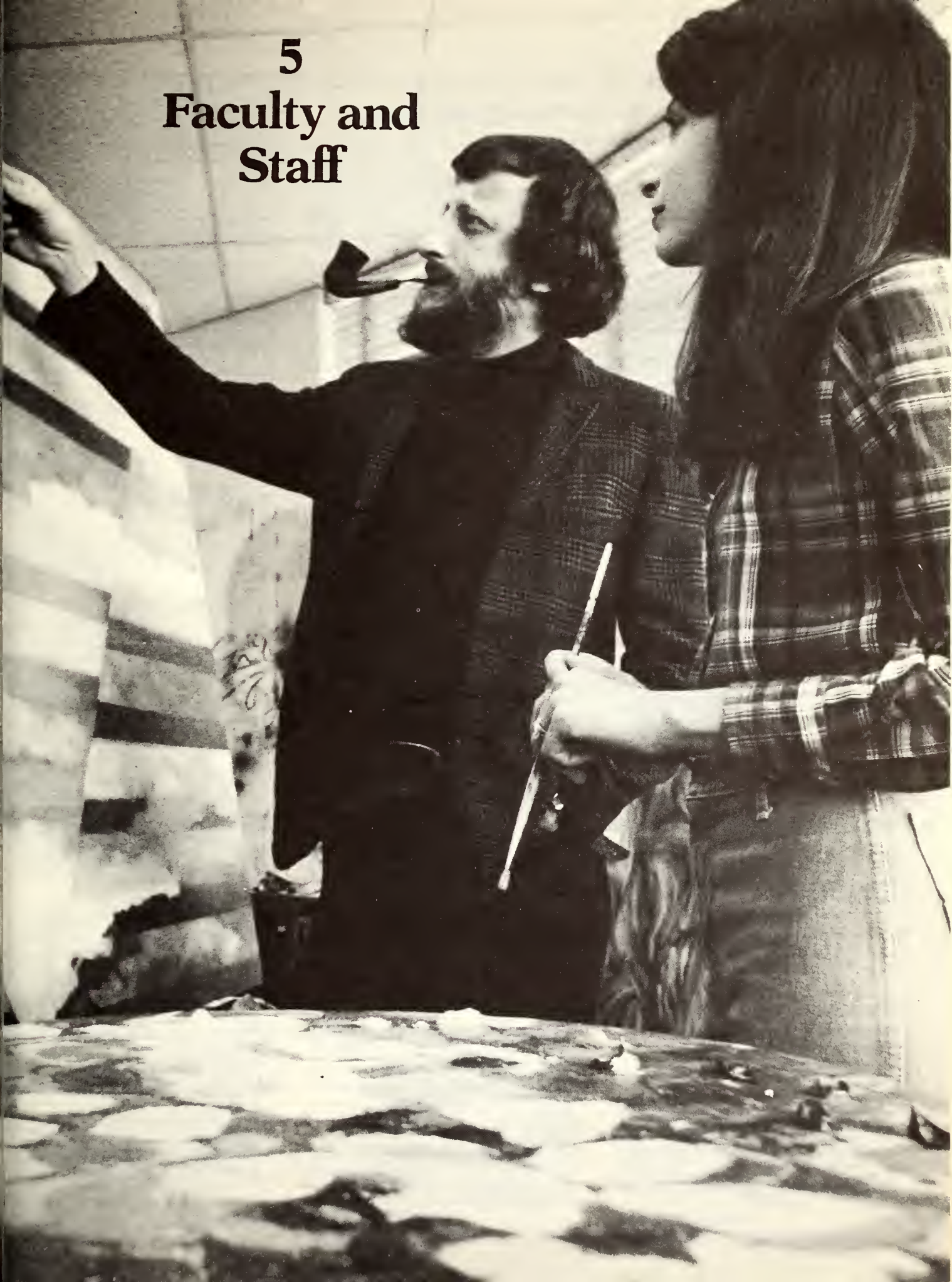
7707. Historical Development of City Planning. (3). (7001) historical survey of the origins and development of urban settlements and cities, and study of the forces that affect urban location, growth and decline. [0206-1]

7708. Planning Practice. (3). (7005) Practical skills in operation of a planning office. [0206-1]

†7996. Thesis (1, 3, or 6). Independent research on a subject satisfactory to the faculty. (Up to six hours credit).

†Grades of S, U, IP will be given.

5
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M.U.R. (1971), University of Mississippi.

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1982-83 Tentative Calendar

This calendar is tentative, and students should check the 1982-83 BULLETIN and the SCHEDULE OF CLASSES for possible changes or additions.

FALL SEMESTER 1982

AUGUST 23-26: Off-campus registrations (exact dates, times, and locations to be announced prior to registration)

AUGUST 26: Meeting of the new members of the University faculty, University Center Ballroom 9:00 A.M.

AUGUST 27: Meeting of the entire University faculty, University Center Ballroom, 9:00 A.M., followed by meetings by colleges and departments

AUGUST 28: Registration: The Graduate School

AUGUST 30-SEPTEMBER 1: Registration Week: For detailed dates and times, see the *Schedule of Classes* for the Fall Semester, 1982

SEPTEMBER 2: Classes meet as scheduled

SEPTEMBER 6: Holiday: Labor Day

SEPTEMBER 9:

Last day for adding courses

Last day for making application to the Dean of Graduate Studies for degree to be conferred in December, 1982. (File the "Intent to Graduate Card" and submit "Application for Master's Degree Candidacy" papers.)

SEPTEMBER 29: Last day for removing Summer Session "Incomplete" grades

OCTOBER 1: Class Break (Classes will not meet)

OCTOBER 22:

Last day for **undergraduate** students to withdraw from the University

Last day for **all** students to drop courses

NOVEMBER 9: Last day for **graduate** students to withdraw from the University

NOVEMBER 24: Last day for making application to the dean of the appropriate undergraduate college for degrees to be conferred in May, 1983

NOVEMBER 25-28: Thanksgiving Holidays

DECEMBER 9: Study Day

DECEMBER 10: Final examinations begin

DECEMBER 18: Commencement

SPRING SEMESTER 1983

JANUARY 4-7: Off-campus registrations (exact dates, times, and locations to be announced prior to registration)

JANUARY 8: Registration: The Graduate School

JANUARY 10-12: Registration Week: For detailed dates and times, see the *Schedule of Classes* for the Spring Semester, 1983

JANUARY 13: Classes meet as scheduled

JANUARY 19:

Last day for adding courses

Last day for making application to the Dean of Graduate Studies for degrees to be conferred in May, 1983. (File the "Intent to Graduate Card" and submit "Application for Master's Degree Candidacy" papers.)

FEBRUARY 1: Last day for removing Fall Semester "Incomplete" grades

MARCH 4:

Last day for **undergraduate** students to withdraw from the University

Last day for **all** students to drop courses

MARCH 13-20: Spring Holidays

MARCH 30: Last day for **graduate** students to withdraw from the University

APRIL 13: Last day for making application to the dean of the appropriate undergraduate college for degree to be conferred in August, 1983

APRIL 28: Study Day

APRIL 29: Final examinations begin

MAY 7: Commencement

PRE-SUMMER SESSION 1983

MAY 9: Registration

MAY 10: Classes meet as scheduled

MAY 18:

Last day for **undergraduate** students to withdraw from the University

Last day for **all** students to drop courses

MAY 20: Last day for **graduate** students to withdraw from the University

MAY 27: Final examinations

FIRST SUMMER TERM 1983

MAY 30-JUNE 1: Registration: For detailed dates and times, see the *Schedule of Classes* for the Summer Session, 1983

JUNE 2: Classes meet as scheduled

JUNE 6:

Last day for adding First Term courses

Last day for making application to the Dean of Graduate Studies for degrees to be conferred in August, 1983

JUNE 17:

Last day for **undergraduate** students to withdraw from the University (First Summer Term)

Last day for **all** students to drop courses (First Summer Term)

JUNE 21: Last day for removing Spring Semester "Incomplete" grades

JUNE 23: Last day for **graduate** students to withdraw from the University (First Summer Term)

JULY 4: Holiday: Independence Day

JULY 7: Final examinations

SECOND SUMMER TERM 1983

JULY 11: Course adjustment day and registration for the Second Summer Term

JULY 12: Classes meet as scheduled

JULY 27:

Last day for making application to the dean of the appropriate undergraduate college for degrees to be conferred in December, 1983

Last day for **undergraduate** students to withdraw from the University (Second Summer Term)

Last day for **all** students to drop courses (Second Summer Term)

AUGUST 2: Last day for **graduate** students to withdraw from the University (Second Summer Term)

AUGUST 12: Final examinations

AUGUST 14: Commencement

EXTENDED SUMMER TERM 1983

MAY 31-JUNE 1: Registration: For dates and times see the *Schedule of Classes* for Summer Session 1983

JUNE 2: Classes meet as scheduled

JUNE 6: Last day for making application to Dean of Graduate Studies for degrees to be conferred in August, 1983

JUNE 7: Last day for adding or registering for Extended Term courses

JUNE 21: Last day for removing Spring Semester "Incomplete" grades

JULY 4: Holiday: Independence Day

JULY 6:

Last day for **all** students to drop courses (Extended Term)

Last day for **undergraduate** students to withdraw from the University (Extended Term)

JULY 11-12: Mid-Term Break

JULY 20: Last day for **graduate** students to withdraw from the University (Extended Term)

JULY 27: Last day for making application to dean of appropriate undergraduate college for degrees to be conferred in December, 1983

AUGUST 11: Study Day

AUGUST 12: Final examinations

AUGUST 14: Commencement

NINE WEEK TERM 1983

MAY 31-JUNE 1: Registration for Nine Week Summer Term

JUNE 6:

Nine Week Term classes meet as scheduled

Last day for making application to the Dean of Graduate Studies for degrees to be conferred in August 1983

JUNE 8: Last day to add Nine Week Term courses

JUNE 21: Last day for removing Spring Semester "Incomplete" grades

JULY 4: Holiday: Independence Day

JULY 5:

Last day for **all** students to drop courses (Nine Week Term)

Last day for **undergraduate** students to withdraw from the University (Nine Week Term)

JULY 11:

Course adjustment day and registration for Second Term

Nine Week courses will not meet

JULY 13: Last day for **graduate** students to withdraw from the University (Nine Week Summer Term)

JULY 27: Last day for making application to the dean of the appropriate undergraduate college for degrees to be conferred in December, 1983

AUGUST 3: Final examinations (Nine Week Term)

AUGUST 14: Commencement

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ARE YOU INTERESTED IN FINANCIAL AID?

Do you need assistance to help finance your college education? Loans, Grants, Scholarships and college work study are available through our office. For more information print your name and address in the space below and return this form to the address below. You may also phone (901) 454-2303 for information.

OFFICE OF STUDENT AID
ROOM 314, SCATES HALL
MEMPHIS STATE UNIVERSITY
MEMPHIS, TN 38152

ARE YOU INTERESTED IN LIVING ON CAMPUS?

If so, write your name and address below and return this form to the address above.

HOUSING INFORMATION OFFICE
DEPARTMENT OF RESIDENCE LIFE
ROOM 214, SCATES HALL
MEMPHIS STATE UNIVERSITY
MEMPHIS, TN 38152

If you are planning to attend Memphis State University, you will want to give serious thought to the type of living accommodations available to you on the campus and in the community. The supply of available facilities is limited, and application does not guarantee an assignment. Early application is recommended! You need not have been accepted as a student at Memphis State in order to apply for residence hall accommodations, but, of course, you must have received your final acceptance before you assume occupancy of your room assignment. Memphis State University is committed to a policy of nondiscrimination with respect to race, religion, and national origin, and practices consistent with the University's policy are followed in housing.

HANDICAPPED STUDENT SERVICES Information Request

Name _____ Date of Birth _____

Address _____

Phone _____ Social Security Number _____

Disability (Please Describe) _____

Return To: **Coordinator**
Handicapped Student Services
Department of Special Education and Rehabilitation
Memphis State University
Memphis, Tennessee 38152

Or Call: (901) 454-2731 weekdays between 8:00 AM-4:30 PM.

Section 504 of the Rehabilitation Act requires the following:

- (A) Information concerning handicaps cannot be used in determining acceptance to the University.
- (B) Information may be submitted on a voluntary basis only.
- (C) Information submitted must remain confidential.

Therefore, please do not return this portion concerning handicapped services until you have received your notice of acceptance.



THE GRADUATE SCHOOL APPLICATION PROCEDURE

Please Read the Following Carefully

To be considered for admission to the university, you must complete the application for admission for one of the appropriate student levels below. Submit the completed application with a \$5.00 *non-refundable* fee, unless previously paid, prior to the stated deadlines. Applications received after the stated deadlines will not be processed in the Graduate Master student level. To qualify for admission, the applicant must meet the admission requirements as outlined in the current MSU *Bulletin*.

THE ESTABLISHED APPLICATION DEADLINES FOR REGULAR GRADUATE ADMISSION ARE:

Fall Semester — August 1 Spring Semester — December 1 Summer Semester — May 1

Graduate Master

1. A transcript of all undergraduate and graduate credit must be sent **DIRECTLY** from each institution at which the credit was earned to the Admissions Office at Memphis State University. (If you received your undergraduate degree at Memphis State, this step is not necessary.) Personal copies of transcripts cannot be accepted as official documents. Documents submitted for Law School admission or Undergraduate admission cannot be used for Graduate admission.
2. Admission to most departments requires satisfactory scores on either the Miller Analogies Test (MAT) or the aptitude phase of the Graduate Record Examination (GRE). Test scores older than five years will not be accepted by any department. Applicants to the departments of Psychology, Business Administration, or Biology should refer to departmental requirements listed below.

All test scores must be sent directly from the testing agency to the Admissions Office. The Miller Analogies Test may be taken at Memphis State University or any approved testing center. For information concerning the MAT, contact the Testing Center, (901) 454-2428. Applications for the GRE may be obtained in the Graduate Admissions Office.

3. Departmental Requirements

a. Applicants for Psychology:

Applicants are accepted for Fall Semester admission only. For MS/PhD program applicants only, all applications and documents must be received by March 1; for MA program applicants, by August 1. All applicants in Psychology must have scores on the Graduate Record Examination, aptitude phase, sent directly to Graduate Admissions. Additional information must be submitted to Admissions Secretary, Department of Psychology, who should be contacted directly by applicant for information about departmental requirements for admission.

b. Applicants for the College of Business Administration:

All applicants in the College of Business Administration are required to submit a satisfactory score on the Graduate Management Admission Test (formerly ATGSB). In addition, the applicant must have two letters of recommendation forwarded directly to the Office of the Director of Graduate Studies, College of Business. Forms for this purpose are available from the Director's Office. Inquiries relating to graduate study in the College of Business Administration should be referred to the Director of Graduate Studies for Business, telephone (901) 454-2457.

c. Applicants for Biology:

All applicants for Biology must submit scores on the aptitude phase and the Advanced Biology section of the Graduate Record Examination.

Graduate Provisional

A non-degree student level in which a student may enroll for *one semester only*. A student may take no more than six (6) hours of graduate credit.

1. A transcript showing undergraduate degree received must be sent **DIRECTLY** from the college or university where the degree was earned to the Admissions Office at Memphis State University.

Graduate Special

A non-degree student level for students who hold a master's degree from an accredited college or university and who plan to enroll for post-master's credit. (Students admitted in this student level are not necessarily eligible for advanced degree candidacy.)

1. A transcript showing master's degree received must be sent **DIRECTLY** from the college or university where the degree was earned to The Admissions Office at Memphis State University. (Students who received the master's degree from Memphis State University should apply for readmission.)

Combination Senior

A student level for the undergraduate student at Memphis State University who is enrolled in courses which complete the undergraduate degree. The student must have a 3.0 grade point average during last year in school and meet admission requirements of the Graduate Master student level.

GUIDELINES FOR THE CLASSIFICATION OF STUDENTS FOR FEE PAYING PURPOSES

PARAGRAPH 1. INTENT. It is the intent that the public institutions of higher education in the State of Tennessee shall apply uniform rules, as described in these regulations and not otherwise, in determining whether students shall be classified "in-state" or "out-of-state" for fees and tuition purposes and for admission purposes.

PARAGRAPH 2. DEFINITIONS. Wherever used in these regulations:

(1) "Public higher educational institution" shall mean a university or community college supported by appropriations made by the Legislature of this State.

(2) "Residence" shall mean continuous physical presence and maintenance of a dwelling place within this State, provided that absence from the State for short periods of time shall not affect the establishment of a residence.

(3) "Domicile" shall mean a person's true, fixed, and permanent home and place of habitation; it is the place where he intends to remain, and to which he or she expects to return when he or she leaves without intending to establish a new domicile elsewhere.

(4) "Emancipated person" shall mean a person who has attained the age of eighteen years, and whose parents have entirely surrendered the right to the care, custody, and earnings of such person and who no longer are under any legal obligation to support or maintain such deemed "emancipated person".

(5) "Parent" shall mean a person's father or mother; or if one parent has custody of an unemancipated person, the person having custody; or if there is a guardian or legal custodian of an unemancipated person, then such guardian or legal custodian; provided, that there are not circumstances indicating that such guardianship or custodianship was created primarily for the purpose of conferring the status of an in-state student on such unemancipated person.

(6) "Continuous enrollment" shall mean enrollment at a public higher educational institution or institution of this State as a full-time student, as such term is defined by the governing body of said public higher educational institution or institutions, for a normal academic year or years or the appropriate portion or portions thereof since the beginning of the period for which continuous enrollment is claimed. Such person need not enroll in summer sessions or other such inter-sessions beyond the normal academic year in order that his or her enrollment be deemed "continuous". Enrollment shall be deemed continuous notwithstanding lapses in enrollment occasioned solely by the scheduling of the commencement and/or termination of the academic years, or appropriate portion thereof, of the public higher educational institutions in which such person enrolls.

PARAGRAPH 3. RULES FOR DETERMINATION OF STATUS.

(1) Every person having his or her domicile in this State shall be classified "in-state" for fee and tuition purposes and for admission purposes.

(2) Every person not having his or her domicile in this State shall be classified "out-of-state" for said purposes.

(3) The domicile of an unemancipated person is that of his or her parent.

(4) The domicile of a married person shall be determined independent of the domicile of the spouse.

PARAGRAPH 4. OUT-OF-STATE STUDENTS WHO ARE NOT REQUIRED TO PAY OUT-OF-STATE TUITION.

(1) An unemancipated, currently enrolled student shall be reclassified out-of-state should his or her parent, having theretofore been domiciled in the State, remove from the State. However, such student shall not be required to pay out-of-state tuition nor be treated as an out-of-state student for admission purposes so long as his or her enrollment at a public higher educational institution or institutions shall be continuous.

(2) An unemancipated person whose parent is not domiciled in this State but is a member of the armed forces and stationed in this State or at Fort Campbell pursuant to military orders shall be classified out-of-state but shall not be required to pay out-of-state tuition. Such a person, while in continuous attendance toward the degree for which he or she is currently enrolled, shall not be required to pay out-of-state tuition if his or her parent thereafter is transferred on military orders.

(3) A person whose domicile is in a county of another state lying immediately adjacent to Montgomery County, or whose place of residence is within thirty (30) miles of Austin Peay State University shall be classified out-of-state but shall not be required to pay out-of-state tuition at Austin Peay State University. Provided, however, that there be no teacher college or normal school within the non-resident's own state, of equal distance to said non-resident's bona fide place of residence.

(4) Part-time students who are not domiciled in this State but who reside in this State, and are employed full-time in the State, or who are stationed at Fort Campbell pursuant to military orders, shall be classified out-of-state but shall not be required to pay out-of-state tuition. (Part-time students are those classified as such by the individual public higher educational institutions of this State)

(5) Military personnel and their spouses stationed in the State of Tennessee who would be classified out-of-state in accordance with other provisions of these regulations will be classified out-of-state but shall not be required to pay out-of-state tuition. This provision shall not apply to military personnel and their spouses who are stationed in this State primarily for educational purposes.

PARAGRAPH 5. PRESUMPTION. Unless the contrary appears from clear and convincing evidence, it shall be presumed that an emancipated person does not acquire domicile in this State while enrolled as a full-time student at any public or private higher educational institution in this State, as such status is defined by such institution.

PARAGRAPH 6. EVIDENCE TO BE CONSIDERED FOR ESTABLISHMENT OF DOMICILE. If a person asserts that he or she has established domicile in this State he or she has the burden of proving that he or she has done so. Such a person is entitled to provide to the public higher educational institution by which he seeks to be classified or reclassified in-state, any and all evidence which he or she believes will sustain his or her burden of proof. Said institution will consider any and all evidence provided to it concerning such claim of domicile but will not treat any particular type or item of such evidence as conclusive evidence that domicile has or has not been established.

PARAGRAPH 7. APPEAL. The classification officer of each public higher educational institution shall be responsible for initially classifying students "in-state" or "out-of-state". Appropriate procedures shall be established by each such institution by which a student may appeal his or her initial classification.

PARAGRAPH 8. EFFECTIVE DATE FOR RECLASSIFICATION. If a student classified out-of-state applies for in-state classification and is subsequently so classified, his or her in-state classification shall be effective as of the date on which reclassification was sought. However, out-of-state tuition will be charged for any quarter or semester during which reclassification is sought and obtained unless application for reclassification is made to the admissions officer on or before the last day of registration of that quarter or semester.

PARAGRAPH 9. EFFECTIVE DATE. These regulations supersede all regulations concerning classification of persons for fees and tuition and admission purposes previously adopted by the State Board of Regents, and having been approved by the Governor, become effective May 1, 1975.

OFFICE OF ADMISSIONS
Administration Building, Suite 215

General Information (901) 454-2101

After 4:30 PM & Saturday mornings (901) 454-2398

Graduate (901) 454-2911

Residency (901) 454-2344

International Students (901) 454-2358

(for out-of-state tuition)

Readmissions (901) 454-2674

Veterans Affairs (901) 454-2996

Limited medical services are available in the University Health Center. If you wish to take advantage of these services, a health record is necessary. This form may be obtained in the Health Center.

MEMPHIS STATE UNIVERSITY DOES NOT DISCRIMINATE ON THE BASIS OF HANDICAP IN ADMISSION OR ACCESS TO ITS PROGRAMS.

An Equal Opportunity University

APPLICATION FOR GRADUATE ADMISSION

APPLICANTS MUST COMPLETE EVERY ITEM ON THIS FORM; SIGN AND DATE THE APPLICATION; AND RETURN WITH A \$5.00 NON-REFUNDABLE FEE UNLESS PREVIOUSLY PAID.

Social Security Number _____ Date of Birth _____
Mo _____ Date _____ Year _____

Name _____
Last _____
First _____ Middle _____

If your name on your college transcript is different from above, please print that name below.

Address _____
Street Number and Name _____
City _____ County _____
State _____ Zip Code _____ Area Code _____ Telephone # _____

Term applying for: ☐ Fall ☐ Spring ☐ Pre-Summer ☐ Summer Year _____
Please indicate below the Admission Test you have taken or plan to take.

GRE Aptitude _____ Date _____ MAT _____ Date _____
Advanced _____ Date _____ GMAT _____ Date _____

Do you have a professional teacher's certificate? Yes _____ No _____ Grade Level _____

List the Certificate Number _____ (Do not list temporary number)

PRIOR COLLEGE EXPERIENCE (List ALL colleges, including Memphis State)

Name of College or University	City and State	Dates of Attendance (Term/Year)	Did you graduate?	If yes, Degree earned and date
		(Term/Year) - (Term/Year)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
		(Term/Year) - (Term/Year)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
		(Term/Year) - (Term/Year)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
		(Term/Year) - (Term/Year)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
		(Term/Year) - (Term/Year)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
		(Term/Year) - (Term/Year)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
		(Term/Year) - (Term/Year)	<input type="checkbox"/> Yes <input type="checkbox"/> No	

STUDENT LEVEL: Check one block below.

- ☐ Regular Graduate Masters ☐ Provisional
☐ Special Graduate (Post Masters) ☐ Combination (MSU Senior Only)

Have you previously applied to Memphis State University Graduate School? ☐ Yes ☐ No
If yes, indicate term and year _____
Term/Year

Have you previously attended Memphis State as a Graduate Level Student? ☐ Yes ☐ No
If yes, indicate term and year _____
Term/Year

Do you plan to earn a graduate degree at Memphis State University? ☐ Yes ☐ No

If Yes, in which department do you plan to earn a degree? _____

What will be your major within that department? _____
(See charts in Chapter 1 of this Bulletin)

If no, in which department do you plan to take courses? _____

DO NOT WRITE IN
THIS SPACE SCREEN 1
01 _____ DOB

13 _____ TR

14 _____ YR

22 _____ COL

23 _____ COL

24 _____ COL

25 _____ COL

26 _____ COL

27 _____ COL

28 _____ COL

29 _____ LEV

30 _____ TYPE

31 _____ RES

32 _____ AREA

33 _____ ATT

34 _____ MAJ

35 _____ AOI

Citizen of U.S.? ☐ Yes ☐ No
Sex ☐ Male ☐ Female

If no, what country _____
Type of Visa _____

Next of Kin: _____
Last Name First Name or Initial
☐ Parent Address _____
☐ Guardian Street Number and Name _____
☐ Spouse _____
☐ Other _____
City State Zip Code

Are you a veteran? ☐ Yes ☐ No
Do you plan to attend MSU with Veteran's Assistance? ☐ Yes ☐ No
Have you been convicted of a crime other than a minor traffic violation? ☐ Yes ☐ No (If yes, attach statement)
Are you employed full-time? ☐ Yes ☐ No If "Yes", give name, address, and telephone number of employer _____

Dates of employment From _____ To _____

The information below will be used to determine your eligibility to pay fees as a resident of Tennessee.

Are you now living in Tennessee? ☐ Yes ☐ No Do you live with your parents? ☐ Yes ☐ No
Have you lived in Tennessee continuously since birth? ☐ Yes ☐ No
(If you answered "No" to the previous question, answer the questions below)

When did you come or return to Tennessee? _____
What was the purpose of your coming or returning to Tennessee? _____

Do you consider yourself domiciled in Tennessee? (See definition on page 150) ☐ Yes ☐ No

Do you intend to enroll as a full-time student? ☐ Yes ☐ No
If you are a veteran, when did you enter military service? _____
What was your home of record? _____
From what state did you enter military service? _____
When did you or will you leave active duty? _____

The questions below are to be completed only by those who are on active military duty or those who are dependents of military personnel on active duty

If you are on active duty, where are you stationed? _____
Are you a dependent of a person on active military duty ☐ Yes ☐ No
If "Yes", where is he or she stationed? _____
What state did you (or your sponsor) declare as home of record? _____

In some instances out-of-state students are not required to pay out-of-state tuition. If you have a question about your status, please review paragraph 4 of the Guidelines for the Classification of Students for Fee-Paying Purposes, or discuss your case with the Admissions Advisor for Residency

Additional information may be required to make a determination as to the classification of a student for fee-paying purposes. In these cases additional information will be requested by the University.

I certify that none of the information on this form is false or has been withheld and that I understand that giving false information or withholding information may make me ineligible for admission or to continue my enrollment at Memphis State University. I further certify that I agree to all regulations concerning American History as set forth in the University Bulletin and the laws of the State of Tennessee.

Signature _____ Date _____

Do Not Write Below This Line

Residency Action:
Determination (1) _____ Non-Res _____
By _____ Date _____
Restrictions: _____
Pending Items: _____

Admission Action:
Approved _____ Date _____
Not Approved _____ Date _____

REMARKS:

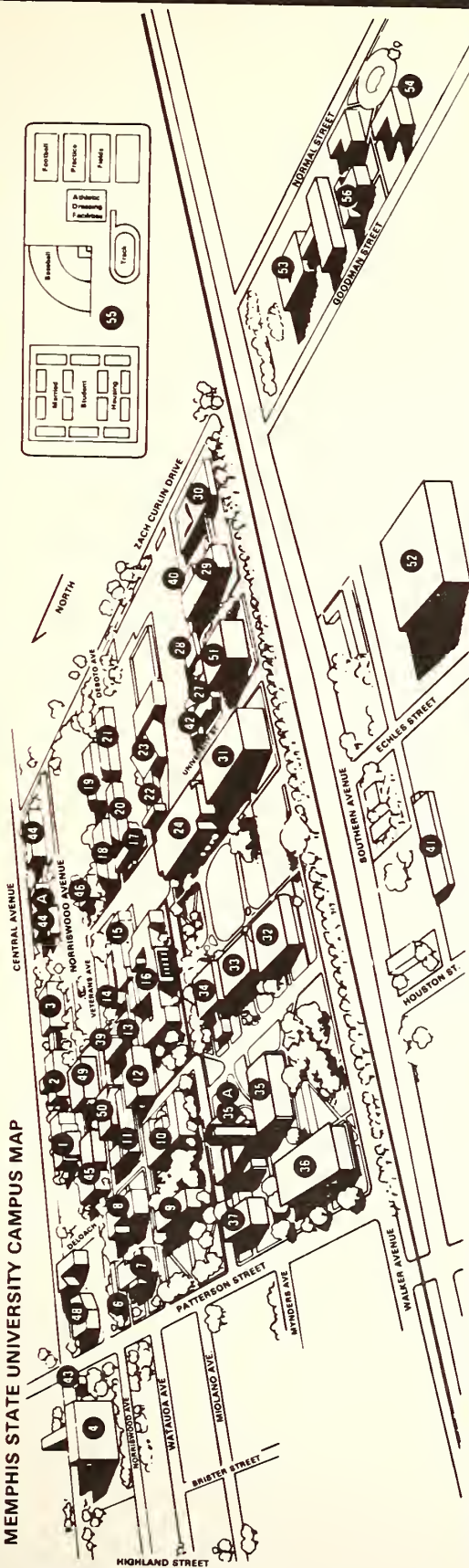
STATEMENT OF PROCEDURE
All credentials become the property of the University and cannot be forwarded or returned.
NOTE: Credentials will be maintained in active files for a 12 month period. After this period, credentials will be relegated to inactive status and must be submitted again before an admissions decision can be made.

NEEDS:

SCREEN 2	
01	APP
02	RACE
03	SEX
04	CIT
05	ST
06	CO
07	VISA
08	MAR
09	REL
11	KIN
16	
17	
18	
19	AID
20	HOU
21	VET

SCREEN	
01	
02	
03	
07	
08	
10	
11	
DOC	
SSCH	

MEMPHIS STATE UNIVERSITY CAMPUS MAP



- 16. Administration Building - AD
- 54. Alumni Center
- 42. Art Annex - AA
- 11. Art Building - AB
- 40. Athletic Office
- 35. Brister Library - BL
- 35A. Brister Library Tower
- 19. Browning Hall
- 13. Cafeteria
- 30. Campus School - CS
- 33. Clement Humanities Bldg. - CL
- 48. College of Bus. Adm. - BA
- 49. Winfield Dunn Bldg. - WD
- 29. Education Building - ED
- 27. Education Annex - EA

- 32. Ellington Biological Bldg. - EB
- 44. Engineering - EN
- 44A. Engineering Technology - ET
- 23. Field House - FH
- 22. Old Gymnasium (WKNO-TV)
- 20. Hayden Hall
- 46. Health Center - HC
- 39. Heating Plant
- 43. Information Center
- 37. Johnson Hall - JN
- 12. Jones Hall - JO
- 1. Law Building - LW
- 51. Life Sciences Building - LS

- 14. Maintenance Building
- 15. Manning Hall - MN
- 18. McCord Hall
- 50. Meeman Journ. Bldg. - MJ
- 34. Mitchell Hall - MI
- 10. Mynders Hall
- 3. Music Building - MU
- 7. Nellie Angel Smith Hall
- 56. Newport Hall
- 6. Panhellenic Building
- 36. Patterson Building - PT
- 52. Physical Ed. Building - PB
- 41. Printing Services

- 45. Psychology Building - PY
- 8. Rawls Hall
- 4. Richardson Towers - RT
- 21. Robison Hall
- 17. Scates Hall - SC
- 31. Smith Chem. Bldg. - SM
- 55. South Campus
- 53. South Hall
- 28. Special Educ. Building - SE
- 2. Speech and Drama Building
- 24. University Center - UC
- 9. West Hall

Locations not shown on campus map:

Speech and Hearing Center - SHC

Child Development Center - CDC

Chucalissa - CHU

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